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The London Water Supply Question.

THE Metropolitan Board of Works have lost no time in giving a distinct answer to the question which the *Builder* put to that worshipful body, on the appearance of the report of Sir J. W. Bazalgette, Mr. Bramwell, and Mr. Easton, in August last. "In fact," we wrote,* "it comes to this: are we to put the cart or the horse first? Are we first to ascertain what it will cost to give a central body—the Metropolitan Board or any other—the full control of the water supply, and then to see how this may be partially or wholly improved? or are we first to attempt partial improvement; and then to find that, at additional cost, owing to our want of foresight, we have to acquire the general control?"

To this practical question a definite reply was given, on the 14th inst., by the report of the Works and General Purposes Committee on the reference of the Board, of the 23rd of February, 1877, and also on the resolution of the Board of the 23rd of March last instructing the engineer to report jointly with Mr. Bramwell and Mr. Easton. The committee have come to the conclusion that it is indispensable to present to Parliament a perfect scheme. They have, therefore, drawn up a Bill which is to carry both the horse and cart. They ask for power to make the compulsory purchase of the existing water companies, and at the same time to carry out the plan of the engineers consulted for a supplementary supply. As to the serious character of the undertaking thus sketched out we have the assurance of Mr. Roche, who moved the adoption of the report, that the Board "were not afraid of the magnitude of the work before them, nor were they afraid of the expense." It has yet to be seen whether the ratepayers are equally courageous.

It must be observed that the mode in which this gigantic scheme has now been brought before the public touches the question of expense to the metropolitan residents with gentle hand. "They considered that the supply of water could be obtained from the proposed new works, and effect a saving of about 70,000*l.* per annum." We quote from the *Times* account of the special meeting held to receive the report. That, so far as the notice given by the Works and General Purpose Committee goes, is the cheerful prospect which is now offered to the ratepayer,—a saving of 70,000*l.* per annum. But a saving to be effected on what? On actual present cost, of course, thinks the unprejudiced reader. Alas! this simple grammatical sense vanishes as the scheme is more carefully investigated.

It is remarkable that in an account occupying a column of the *Times*, and presumably giving a fair view of the essential parts of the report, as well as of the speech of its mover, not a single word is said as to what, after all, is the first question raised. What is the purchase of the existing works to cost? Of course, if 70,000*l.* per annum are to be saved to the ratepayer, that same cost matters little to him. It is only our uncomfortable suspicion as to the reality of the saving in question that leads us to put any further questions. As far as these questions can be answered from official documents, the reply is not reassuring. The cost of purchase, as to which the Board of Works are discreetly silent, has, however, been estimated by the gentlemen called on by the Board to report. The only inconvenience is, that their report was drawn up from a different point of view from that now adopted by the Board. That point of view seemed to us to be that it was desirable to get in the small end of the wedge. Therefore, it was pointed out how small that edge was. But unfortunately its narrowness was illustrated by a reference to the great width of the broad end. And now that the entire wedge is brought out before the world, this former admission as to its magnitude is memorable, and may prove inconvenient. "If the governing body of the metropolis were," said the reporters of August last, "at a cost of from 20 to 25 millions of money, to acquire the existing water companies, it would find that this expenditure was merely a first step in the outlay, and thus the 25,000,000*l.* would have to be supplemented by a further, and perhaps an almost equal, outlay." The first instalment, then, for which the ratepayer is to provide, is from 20 to 25 millions of money, and the larger sum is assumed as probable by Sir J. Bazalgette, Mr. Bramwell, and Mr. Easton. Concurrently with this the 5½ millions required for the scheme of these gentlemen are to be found. Thus the scheme starts with a cost of thirty millions sterling, with more than a hint that, under certain contingencies, it may cost fifty millions sterling. The Board and their spokesmen have the inconvenient adroitness of justifying their own plans at the moment by showing how much more plans of some other kind would cost. "Lay out five millions and a half," say the reporters, "at once, for fear you should be asked for thirty millions, or even for fifty millions, by and by." "Pass our Bill now," says Mr. Roche, four months later, "because you must remember that if the water companies were compelled to put on a constant supply, the ratepayers, in a few years, would be called on for about three millions of money." Three millions of money,—that is to say, per annum.

Now, is it not well to ask ourselves whether this is altogether a reassuring mode of attacking a question of such signal importance? If we dismiss, as we hope we may do with propriety, any idea of want of candour, or of an attempt to steal a march, or to get in, as before said, the small end of the wedge, can we allow that the matter has been treated with the forethought, gravity, and statesman-like ability which it so imperatively demands? Are these sums of five and a half, thirty, fifty,—up to eighty or a hundred millions,—which are thrown like shadows on the screen of the future, matters to be so lightly dealt with? We cannot admit such to be the case. The Board of Works may, it is true, be in possession of a carefully digested project, of which all the inconveniences have been foreseen, all the difficulties provided for, and the ultimate cost duly counted. If so, they have done themselves great injustice by not taking into their confidence the ratepayers, with whose money they propose so freely to deal. If otherwise, they have been guilty of the greater injustice towards these same ratepayers.

Let us look for a moment at what we may call the minimum sum of thirty millions sterling as required for the first setting up of the new water supply authority. We think we are right in saying that the loans hitherto raised by the Metropolitan Board of Works, taking into account both rate of interest and rate of issue, bear something like an interest of 3¼ per cent. on the actual amount of money raised. Of course, if these loans had to be paid off, there would be a further loss, but we are regarding them as permanent. The actual income of all the existing water companies is a little under 1,200,000*l.* per annum. The incidence of rate, which provides this income, is 6*s.* 6*d.* per head per annum; the total incidence of the metropolitan rates being 50*s.* per head per annum, out of which one-eighth thus goes to pay for water. The actual cost of distribution of the present supply is a little over 460,000*l.* per annum. Messrs. Bazalgette, Bramwell, and Easton allowed in their estimate 32,500*l.* for cost of distribution. As this scheme proposed to serve as many houses as are now supplied, besides providing an instantaneous supply at 75,000 separate hydrants, the contrast between the actual and the proposed expenditure partakes of the nature of the ludicrous. Even with that drawback, we still find a sum of 490,000*l.* per annum at least will have to provided for working costs. Eight hundred thousand, perhaps, would be nearer the mark, but let us take the smaller figure. Here is an additional 2*s.* 9½*d.* at one blow added to the existing rate of 6*s.* 6*d.* per head. And if we look forward to the highest charges intimated as possible by the Board of Works we shall find that the ratepayers will have occasion to congratulate themselves if their actual water-rates are not doubled in the future.

If this were all, serious as it would be, the change might even be worth this enormous cost. Supposing any authority in the professional and financial competence of which implicit confidence could be placed, were to come forward

* *Builder*, p. 847, *ante*.

and say, "The evils of the actual water supply of the metropolis are known and admitted. We are able to show how they may be remedied. We will provide every house with a sufficient supply of pure drinking-water, namely, two gallons per head per diem. We will also supply twenty-eight gallons of rain or other water per head per day for purposes of cleansing, sewage, street watering, manufacturers, and the like. We will so arrange that it will not be easily in the power of an idle servant or a careless occupier to take the common water for drinking purposes instead of the pure water. And we will keep a minimum head of 100 ft. of water on each of 75,000 hydrants distributed over London; the pipes being large enough to deliver a jet of 2,000 gallons of water per minute from each hydrant. The cost of this will be, say, 14s. per head of population per annum." Suppose this offer to be made, and to be made with material guarantee for the fulfilment of their part of the contract by the proposing purveyors of water, the ratepayers would, in our opinion, do well to think twice before rejecting it. High as would be the price, far be it from us to say that it would be too high. If the two great requisites of immunity from any possible source of disease arising from water, or want of water, and of comparative safety from fire, in consequence of the presence of an ever-available and ample supply of water, were secured, it is very possible that three millions sterling a year would not be a ruinous price to pay for such immense benefits.

What we do object to, however, is that the certitude, at present, is altogether on one side. That extra cost to the ratepayer will be increased by the compulsory purchase of existing waterworks is shown as clearly as possible,—though it is not directly stated,—by the report of Messrs. Bazalgette, Bramwell, and Easton. That any advantage, in any way, will accrue to the ratepayers by such a transfer, is a point left entirely in the dark. No evidence, no argument, is offered in order to show that such will be the case; in fact, the Bill as now proposed to be sent before Parliament may be taken as evidence to the contrary. The main advantage of a concentrated administration, in a financial point of view, has always been represented as lying in the disuse of duplicate works. But the introduction of a complete set of duplicate works is to accompany the transfer. Any idea, then, of utilising and improving the existing apparatus of supply by combining the different apparatus is abandoned. "Put all in our hands," say the Metropolitan Board, "it will only cost you ten or twelve millions of money." "What shall we gain by doing so?" asks the ratepayer. "Oh! you will have unity of action; and concentration of power to deal with the matter; and so forth," is all the reply. "Shall I have a single drop of water more, or a grain less of impurity in the gallon?" asks the ratepayer. "As to that, we have other things to propose. You shall have more and better water. For that, however, you will have to pay separately, of course." That is how the matter stands at present.

That the Bills of the Metropolitan Board of Works will become law in the ensuing session of Parliament we suppose no one seriously imagines. No persons, we should conceive, would be more disgusted at such a result than the legal gentlemen whose medium of life is in the stormy skies of Parliamentary Westminster. For the matter to receive a preliminary threshing is, no doubt, all that can be expected in 1878. But even as to this, the ratepayers should not be too secure It would be quite consistent with that magnanimous fearlessness of expense of which Mr. Roche boasts, for the Board to make direct and private offers to the several companies such as the directors of the latter would not feel justified in refusing. Indeed, if it be decided that, *coute qui coute*, the expropriation is to take place, it is probable that a little timely extravagance in this way would be an ultimate saving. The value of the Water Company stock is calculable by any accountant. The percentage due to any one for forcible expropriation is also capable of valuation. If it comes to serious negotiation, there would not be room for very material difference between the sellers and the purchasers in the case. The former, Parliament in view, could not stand out for a fancy price. The latter, under the same control, could not offer anything under the amount of a professional valuation. The difference in such a case could hardly amount to the certain cost of a long Parliamentary conflict. Therefore, if the Board were wise, and also resolute, and if the companies, whether resolute or not, were wise too, all parties might shake hands before the Bill came into committee.

But, in that case, who would represent the people of London? Have they given to the Metropolitan Board, who are, or ought to be, not their masters, but their servants, *carte blanche* on this subject? Have they given them authority to pledge the rateable property of the metropolis for 1,200,000*l.* per year, or for any sum between that and 3,000,000*l.*, in order to get the control of the water supply? Surely, not yet. There must be clearer statements and more precise figures first.

JOTTINGS AT WIMBORNE AND CHRISTCHURCH.

Wimborne is a small town, with little to interest the architectural visitor save and except its minster, which, on the other hand, is a small building, with very much of interest, quite disproportionate indeed to its limited extent, and the slight notice or illustration it has received. Externally, the striking feature of the building is the Late Norman or Transitional centre tower, the only important portion of the original Norman church which is visible externally. The east and west walls of the Norman transepts remain, but the transepts have been lengthened to about double their original extent at a late Gothic period (they were very shallow originally), and the former pitch of the roof lowered, so that from the exterior, at all events, there is practically little of them left. Adjoining the north transept, however, on the west wall, the extent of the original work is marked by the greater portion of the angle stair-turret, which has peculiarities that have led to a supposition of the Saxon origin of this portion of the building. The turret differs from the most common Norman plan in that it projects out from the external wall, instead of projecting internally into the floor area of the building; and it is square in plan at the lower portion only, breaking into a circular form above, and, as it now stands, rising a little above the present roof level, and finished with a bit of low-pitched conical roofing, it looks unusual enough. There are points about the architecture of the crossing internally which give a very primitive character to it, and rather bear out the idea that this portion of the church might have been pre-Norman, if we accept the idea that any of the simpler developments of what is generally called Norman architecture were really anterior to the Conquest. If it ever be possible to settle this vexed question, it can only be by a systematic and exhaustive critical examination and comparison of all the earliest Norman buildings in regard to which documentary evidence of date is attainable; and it may be doubted whether this kind of evidence exists in sufficient quantity or reliability to afford any means of settling the question at all positively after all.* The notion that this part of the structure was Saxon probably was suggested by the circular plan of the stair-turret, the circular tower being a recognised "peculiar" feature in some acknowledged Saxon remains; but there is not apparent in any of the masonry or details connected with this part of the building anything similar in character to that unquestionable Saxon architecture which we know at Barnack and elsewhere. All that can be said, in the present state of our knowledge, is that the lower portion of the crossing, up to the springing of the roof, is appreciably older in style than the tower and the nave arcade, the former especially, which could not have been built till some time after the arches on which it stands were constructed. Formerly there was an opinion among Dorsetshire archæologists that tower and all were the work of the untutored Saxon mind; an opinion which will be found recorded in Hutchins's History of Dorset, compiled about the end of the last century, but which a glance at the tower shows to be absurd, on any tenable theory of Saxon advancement in the art of architecture. At that period of time, however, it was the custom to call every building that had semicircular arches Saxon.

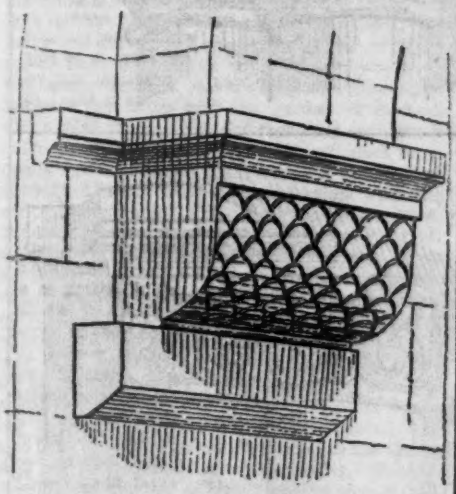
The centre tower is, in fact, a specimen, and a very fine and well-preserved one, of the type of work in which a distinctly Gothic feeling first appeared superinduced on, or blossoming out of, the characteristic Norman style. There could hardly be a specimen of architecture more markedly *transitional* in character; so much so that one seems to see the style growing, step by step, with each stage of the work. The architectural *ordonnance* of the bell-stage, for instance, consists of two semicircular-headed windows, with a pointed wall-arch between them, the pointed form being introduced simply to make the centre arch, over a narrower space, range with the others. In the stage over this, the decorative treatment consists of semicircular arches interlaced in the manner which used to be so often quoted as having given the suggestion of the pointed arch; and in this case there are actually pointed sub-arches, with a separate order of archivolt moulding, under the pointed spaces formed by the intersections of the semicircular archivolts. If this stage of decoration had occurred by itself it might really have been taken as a very strong indication of this origin of the pointed arch from interlacing circles; its design almost seems to emphasise this idea; yet it is found above a story in which the pointed arch has already been introduced from a totally different and in some degree practical motive. Another curious point for comparison is this: in the interior of the tower there is an open triforium arcade, consisting of narrow round-arched openings in groups of four, each group included under a very slightly pointed wall-arch (so that here is really the first appearance of the pointed arch in the upward progress of the tower); the shafts carrying these arcades are surmounted by a most interesting collection of transitional capitals, every one of which is a separate experiment in design, and all of which retain that semi-Classic or Romanesque type which was prevalent at a certain period of Transitional-Gothic architecture. But if we look from these to the caps of the exterior shafts in the next stage higher of the tower, we find already that in the process of raising the tower that stage the treatment of the capital has developed, that it approaches much more nearly in its outline and treatment to that character now called Early English. It is not often that one can see the style actually *growing* in one feature of an edifice so distinctly as in this tower.

Wimborne had, it is on record, a spire, which fell about the year 1510, shortly after which probably were built the ugly square oversailing pinnacles which now terminate its angles. The masonry of the Norman part of the tower is in very fine preservation, and the work of the most admirable character in regard to the depth and effectiveness of the mouldings and the general solidity of character of the whole. There is not, beyond the central tower, much of special interest in the exterior, some of which is restored, and where not so, it is mostly later Gothic of a not very forcible type; and the western tower is a commonplace specimen of Perpendicular work. The variegated treatment of the masonry is worth notice, consisting of courses of a light-coloured limestone intermixed with a reddish brown sandstone, not symmetrically, but with a kind of intentional irregularity, apparently.

Internally the most interesting point, at first glance, is the crossing. As the church at present stands, this is the oldest portion, from which the more recent additions radiate. The style here is of nearly the simplest and plainest phase of Norman, with half-cylindrical wall-shafts and cushion capitals: the curious point is that the provision for buttressing the thrust of the tower eastward and westward is here made not, as at Tewkesbury and other great Norman buildings, by extending solid piers eastward and westward of the crossing, but by advancing the jambs inward so as to make the north and south arches considerably narrower than the east and west ones. As the north and south arches are built nearly true semicircles, the consequence is that the east and west ones are flattened to a great, one would say a dangerous, extent, considering the superincumbent weight of the tower. It seems strange that constructors who were so careful about providing abutment against longitudinal thrust should have been so indifferent in regard to vertical thrust as to build a heavy tower on an arch practically flat at the crown; at the same time it must be admitted that the result seems to justify their confidence in the capability of their segmental arches, which do not appear to have succumbed in the least. There is something, however, in the whole arrangement of this part, and its rather clumsy and primitive method, as contrasted with the design of the greatest

* In regard to this most interesting question to the historical student of architecture, the description in Mr. Freeman's history, of England in the generation immediately preceding the Conquest, deserves special attention. He finds evidence that at that period England was, in many respects, half-Normanised already, chiefly through the influence of the appointment of Norman bishops, who of course might be expected specially to influence the style of the ecclesiastical buildings.

Norman buildings, which gives some colour to the theory that this was the ruder effort of a less instructed race of builders prior to the entire possession of England by Norman rulers and Norman artists. Eastward of the crossing one bay extends of the same date, beyond which the thirteenth-century work supersedes the original. But westward of the crossing there is nothing which is not appreciably later; so that there can be no doubt that in this, as in so many other cases, the crossing and the choir only had first been built: then the later builders took it in hand and added the nave first, and then proceeded to build the tower; by which time, as we have observed, they had got into the full swing of the transition towards the Pointed style. We find one curious little bit of evidence that the originally contemplated nave never was carried out, and that the existing one is on a larger scale than was intended by the builders who commenced the work. The accompanying sketch shows the impost corbel from which



springs the first arch of the nave west of the crossing. The corbel with the scale ornament upon it ranges with and belongs to the period of the existing nave arcade; but just below it is seen a projection not central with this corbel, and having no relation to it, which is obviously the upper member of the impost originally built in for the springing of the first nave arch, before the new set of builders took it in hand. The nave which they built extends four bays to the westward, three of which consist of round arches of bold design, decorated with two separate orders of zigzag enrichment, the outer one zigzagging horizontally, and the inner or soffit one vertically; this being carried out on either face makes four large zigzags to each arch, which, on the small scale of the arches, confuses the lines very much, and looks rather barbaric. Westward of this part two more bays have been added in very Late Decorated work; and subsequently to these the western tower; the thickening of the piers inward to carry it cuts off part of the western arch of the nave. But the oddest and most puzzling feature in the nave is the first arch immediately west of the crossing. This is a narrower arch than the rest, as at Romsey, though the disproportion is much greater in this case; but this arch, springing from the corbel sketched above, is pointed. It seems impossible to suppose that it is not original, from its relation to the adjoining portions of the structure; but if so, it is certainly a singular instance of the appearance of the pointed arch, as one may say, before its time.

The nave at Wimborne has a modern hammer-beam roof, put up when the repairs and partial restoration were carried out a good many years since. The transepts still retain their plastered ceilings and mean-looking galleries. In the end of the north transept is a somewhat singular and apparently original geometrical window with uncusped tracery, in two very wide lights with a circle in the head between them; these have been propped in modern times by an extra mullion inserted in the centre of each light supporting the apex of the arch; the whole making a very odd combination. It is in the chancel that there has been most of restoration. It is noticeable that the Norman work, as is often the case, has lasted much better than the later additions: it seems to have called for little renovation, while of the thirteenth-century arch which adjoins the Norman work eastward scarcely a bit of the original seems to be left. The restored portions, we must notice with regret, have been made with little feeling for or knowledge of the details of the style: some of the sections of mouldings which are seen are wonderful. As our readers will probably remember, one remarkable point about Wimborne is the elevation of the choir above the rest of the church; first by more steps than usual at the crossing, then by a further elevation of seven steps further eastward, leading to what is now the altar-rail and the chancel. But this latter elevation is much later than the main part of the choir, and the manner in which it has been done, and the effect of the whole, is very curious. The main part of the choir is thirteenth-century work of the finest type, at the point when Early English was just developing into Decorative architecture: the east window consisting of what is really a set of lancet windows with a remarkable arrangement of cusping on a large scale on the internal mouldings, which above the cusp sweep round in a circle filled up by a quatrefoil light above the point of each lancet light, in a manner very unusual. The centre of the choir is connected with its aisles by arches of a very fine and rich type of Early English work, with many shafts set on the chamfer plane; but the jambs of the eastward arch are cut into by the raised floor of the chancel, which has been made quite independently of them. When this floor was raised there was formed under it what has been called incorrectly a crypt; this, is in fact, a chamber half above and half under the main floor level, with a vaulted roof supported on slight piers and carrying the raised floor above. This looks as if it dated from late in the fourteenth century, but the details of the vault and its piers have been extensively restored and renewed, and the details as existing now are mostly so unlike anything really Gothic that it is difficult to say what they were meant to reproduce. The choir, in fact, seems to have been greatly *over*-restored, while the transepts have been left in a somewhat forlorn state of dilapidation.

To snatch a glance at Christchurch while in the way of it, one has to go round the angle at which the two railways meet at Ringwood, after skirting the brown moors which form a kind of neutral ground between the Dorsetshire and Hampshire country. At Ringwood every one has to wait for everything (it is amazing how leisurely the railways are in these south-western counties), and there is time to notice that there is nothing of architectural interest in the town, unless we except a rather bald-looking modern Gothic church of some size, and that the flat meadow country in its outskirts, with the river bridges rising above it, reminds one of a Dutch picture. As to Christchurch, many of our readers must be familiar with it: still it is impossible to mention the place without a fresh word of admiration for its grand and picturesque and in some ways almost unique exterior as seen across the open ground from the north; more especially noting, in detail, the beautiful and well-preserved Early English work of the north aisle, and the fine and unusual design of the Norman transept, which has been very carefully and judiciously repaired rather than restored, and still retains much of its ancient work quite untouched and in remarkable preservation. Indeed, in general this church shows externally less of restoration, and less pretext for it, more fine work in fine preservation, than one often has the good fortune to encounter. The stone which has stood so well on the north side is believed to be from the Isle of Wight; it has a rich grey tone, and lichened surface now; but the mullions, &c., seem almost as sharp in section as when they were cut; the capitals in the Norman portion are more gone. We come upon the Saxon *versus* Norman question again in reference to portions of Christchurch, certain corners and remnants of which have been claimed as Saxon in the most decisive manner by the late Mr. Garbett, whose very interesting dissertations on the subject are appended to Mr. Ferrey's valuable book on the history and architectural character of the church. From his way of speaking of them, this writer seems to have included in the Saxon portions the interior wall-arcade under the windows of the south aisle of the nave, which he says presents in the capitals "a rude imitation of the Corinthian order." Our impression would be that they were just specimens of what we have often called the experimental character of transitional capitals; there is this to be said, however, in favour of the notion of their early origin, that they seem to be much more dilapidated than other capitals in the church which are of unquestionable Norman and Transitional date. We judge of this by the few that are left intact; but the fact is these capitals in the aisle-walls have for the most part been so much restored that, though the restorations have all the appearance of being correct and of being carried out under a true comprehension of the character of the work which they have supplanted, it seemed difficult to find any complete specimens sufficiently untouched to be reliable, otherwise we would have given some sketches of this series of caps. We do give a drawing of another portion of the building claimed by the same writer (who, we believe, is not alone in his opinion), as being of Saxon origin; the small crypt, namely, under part of the north transept (see illustration A, p. 1166), which is at least very unusual in its method of covering; the barrel-vault being strengthened at intervals, as shown, by a broad arch of squared stone springing from a projecting pier, and looking like a kind of first type of the vaulting groin. These piers are respectively 4 ft. and 6 ft. in width, with about 8 ft. between them; the corner stones both of the piers and the groins rounded; the arch springing from a kind of surbase-moulding about 5 ft. from the floor, resembling the usual upper member of the abacus of an Early Norman capital. The remainder of the vault is in very irregular work, mostly long, narrow stones running in the direction of the length of the vault, with very thick mortar joints, and looking rather as if this portion must originally have been plastered. The coursed masonry seems to have been repaired in some parts of the walls, but is mostly original, and in very good condition. The theory of Mr. Garbett is that when the Norman bishop, Flambard, commenced rebuilding the church in the reign of William Rufus, he removed the Saxon church, but left these crypts; adding to them, however, the semi-circular eastern termination which formed the base of the apse in the eastern wall of each transept. This theory at least accounts for the distinction between the construction of the oblong part of the crypt and the apse at the end, as the roof of the latter portion has regular vaulting groins springing from the two shafts flanking the doorway. These two shafts, however, seem earlier Norman work than the end of the reign of Rufus, to which Garbett's theory would bring them. Of course, the Pointed doorway behind is much later. The broken stairs seen through this door are unused now; the present entrance is on the left, by a narrow stair from the transept floor. There is a precisely similar vault under the north transept, which has been restored; the one shown in our sketch is left in a rough state, the window-openings half encumbered with *débris*.

The process of reparation, or restoration, or what the reader will, seems to have been carried on rather capriciously, or perhaps was untimely cut short for want of funds. A single one, for instance, of the original Norman apsidal chapels against the east transept walls remains (in the south transept), and has been restored in a very complete manner,—that is to say, there is hardly an old detail left. If this shocks the minds of virtuous anti-restorers, they will, on the other hand, doubtless be pleased by the state in which the shrines and sedilia in the presbytery are to be seen; battered and cracked, defaced in some parts with green mould, while one monumental recess seemed to be used as the receptacle for the sexton's poker and shovel, for the heating furnace and coke-cellar. This, of course, by new lights, is (barring the poker) all decorous and proper, and as it should be. There is a remarkably interesting chapel adjoining the south aisle of the choir, containing a beautiful Early English work with Purbeck shafts. This is in a state of lumber. The floor is half-covered with old tiling, which seems in process of getting gradually defaced. The transepts are disfigured with galleries extending over their whole superficies, put up about fifty years ago, of the worst Batty Langley type, the ceiling of one of which cuts across the curious and interesting capital shown in illustration D. Something less unsightly, more in keeping with the grand style of the building, might at least be substituted for these galleries. The capitals, of which we give illustrations, are among the best specimens serving to exemplify the interesting and peculiar semi-Classic or semi-Byzantine character of much of the ornamental work; that marked B is from the western respond of the south arcade of the nave; C is the impost at the north-east angle of the north

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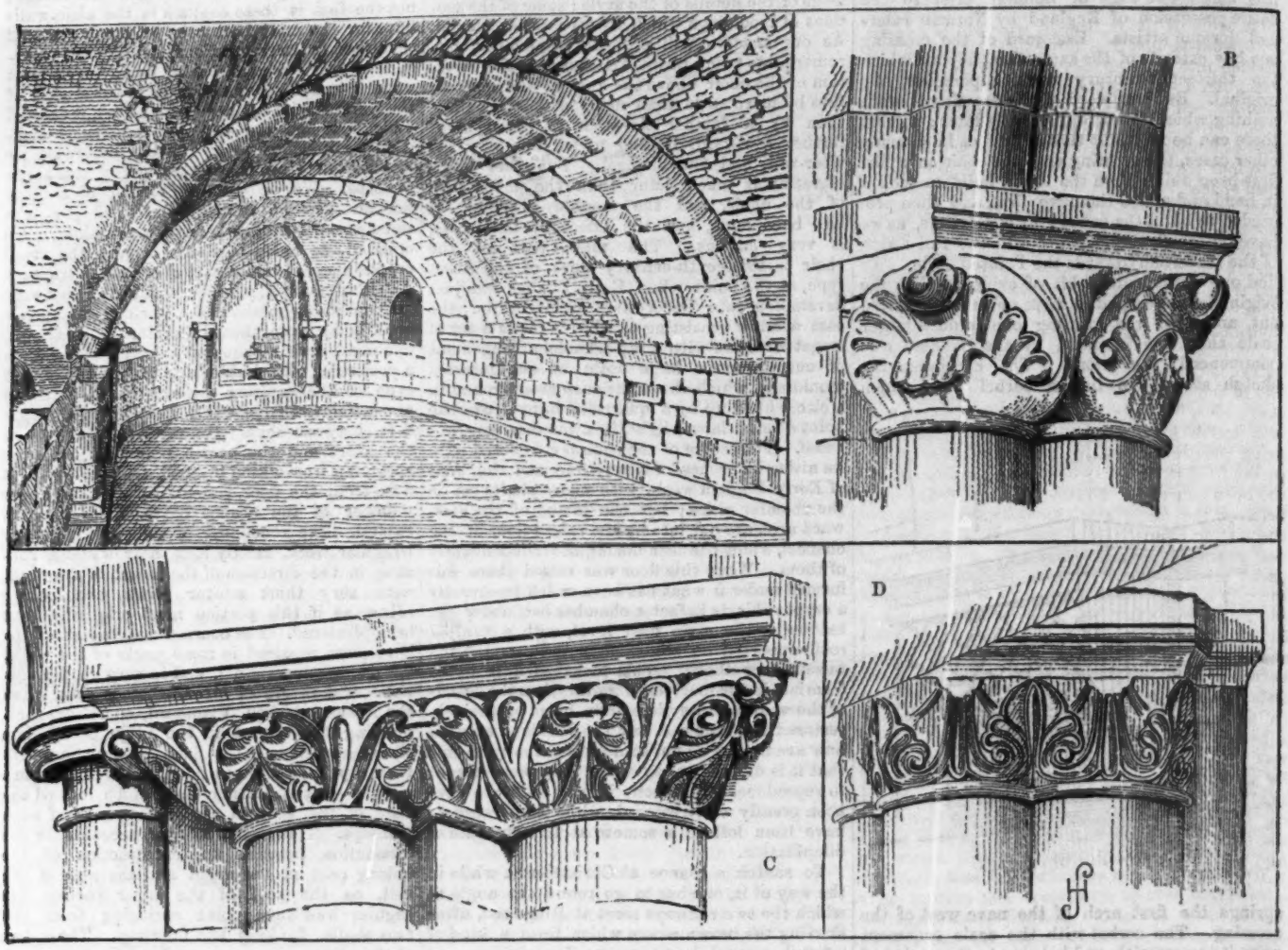

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THAT a writer or a speaker who presumed to address his colleagues, or even the public, should have some personal as well as studious acquaintance with the subject of which he treated, used to be more than an axiom,—it was a self-evident proposition. But the great perfection to which the art of public writing has attained, and the means now at every one's disposal to diffuse information—not to mention the exigencies of rapid journalism—permit men to describe, often with accuracy, things that they have not seen; and to discuss, sometimes with advantage, subjects which they have not had occasion to appreciate. I prefer the earlier custom; and I would not venture to call the attention of the leading architectural society to the matter of house accommodation in Paris, were it not a subject which, I humbly think, no other English member of our Institute has had an equal opportunity to study. During a residence of ten consecutive years in middle-class Paris houses, I have seen many hundred similar buildings rise from the vaulted cellars on which they rest to the mansarde which crowns them. I would, therefore, invite an examination of the method employed in Paris to house groups of people of different denominations upon one and the same restricted area of ground; to combine, in a single block, shops complete in themselves and distinct houses each complete in itself.

The title of this paper may shadow forth a treatise in several volumes; for the middle classes, both in Paris and London, are as ubiquitous as the houses in which they dwell are varied and dispersed. But the classes of a town population to which I would chiefly refer, consist of people who, in every phase of general society, live, like the ideal hero of the Latin poet, between the little and the great,—all those who, amid the organised clamour of working men and the optimism of dull prosperity, can neither gain the sympathy nor excite the cupidity of reform.

That the Paris house,—that is, the *maison-d-loyer*,—is entirely different in methodical arrangement from any in Central London I need hardly insist. Its principle of plan is based upon the Roman custom in vogue even during the time of Cicero, and brought, in the second and third centuries to systematic elaboration,—elaboration, though, which could not have reached a character other than comparatively primitive. But that two classes of domestic buildings were recognised in Rome as early as the close of the first century, is known, I think, beyond a doubt. There was the *domus*, intended for the accommodation of a single family; there was also the *insula*, or island of clustered shops and supposed dwellings. Incidents connected with the Roman mode of habitation are recorded at intervals up to the time of Palladio, when even noblemen, who resided in the heart of an Italian city, sometimes devoted the ground story of their palaces to shops and shopkeepers' dwellings; whereby they obtained a by-no-means despicable revenue. In parts of France, even before Palladio's time,—obviously in the great cities,—private houses were sometimes approached through a broad passage, bounded on either side by shops, let to different tenants, who had no connexion with the superstructure of which their shops formed simply the ground story. Scotland, whose relations with France, in the sixteenth and seventeenth centuries, were intimate and practical, adopted some of the customs of, at that time, a superior form of civilisation. In Edinburgh, in the year 1598, both gentry and tradesmen resided in "one broad and very fair street," but not, as in English towns, beside each other; the houses of the gentry were behind and above those of the shopkeepers, whose business compelled a monopoly of the street frontage at the ground level. A distinguished architect, the late Mr. David Bryce, assured me that in the Old Town there were immense blocks, of the end of the sixteenth century, thirteen stories high, and that each story was a large house. Nevertheless, they cannot be regarded as superior, except in size, to the Roman *insulæ*; the house was simply composed of rooms leading one into another. The same must be said of similar buildings in Paris about the beginning of the seventeenth century; and, indeed, until far into the reign of Louis XIV.

How in the course of two hundred years the Paris house has grown, may be seen by a comparison of the illustrated books published during that period. A series of model plans and elevations, given to the world by Pierre le Muet in

1663, contains designs for every variety of frontage and depth;* but they are for houses to accommodate a single family. In one, however, arranged to cover a plot of ground about 40 ft. wide by 100 ft. deep, it will readily be seen with what facility the different stories could be divided into distinct sets. Only, comparatively speaking, a small hôtel,—that is to say, a private mansion,—it is built with party-walls on either side, and with the front brought forward to the street alignment. The depth of 100 ft. is divided into four parts: two of construction and two of open space. First there is a block with windows front and back; then a courtyard; then another block with windows on either side; and then a garden. The two blocks are connected by a narrow building which contains the staircase; and thus the courtyard is surrounded on three sides only. The frontage of 40 ft. is in three divisions: a passage in the centre, to the left of which is a stable; to the right, a kitchen. The entrance-door to the house is in a corner at the end of the courtyard. On opening this door, the staircase is immediately in front; and to the left is a lobby leading to two sitting-rooms. To bring the dinner and supper into one of these rooms from the kitchen it is necessary to cross the open courtyard, and the only communication between the latter and the garden is through the sitting-rooms. On the first floor each block contains a set of rooms; the door of each room opens into a lobby or hall, which is approached through a single door communicating with the central staircase. In the block facing the street, the set of rooms consists of a small study, a bed-chamber, and a dressing-room; in the block between the courtyard and the garden the set consists simply of a bed-chamber and a dressing-room, called the *garde-robe*, the invariable appanage of a bed-chamber in the time of Louis XIV. It was used not only for the wardrobe, but often for an attendant's bed; it contained not only the small basen and jug for which a complete washing apparatus has lately been substituted, but also that *chaise-percée* which spared to the Great Age any complication of pipe or drain. Such a distribution of plan, repeated on the second and third stories, enabled an almost patriarchal system of habitation to be pursued. One set of rooms was occupied by the chief of the family; his married daughter, say, occupied, with her husband, another set; the eldest son another; the younger children another, and so on. When, after fifty, or a hundred, years, this house was relinquished by the family of its original owners, and probably builders; when, perhaps, it fell into the hands of a speculator, nothing was easier than to apportion the different stories in either block to different tenants. The staircase, common to the various groups of one great family, was no less suitable for groups of several less distinguished families; the outer door of the lobby belonging to each set of rooms became the entrance to a small house. The kitchen and stable were converted into shops, the small larder, between the stairs and the kitchen, became a porter's lodge. By a further subdivision of the different sets of apartments, it was easy to add a small kitchen to each. No radical improvement upon the kind of house I have attempted to describe was made until after the Revolution. A great deal of progress then took place, to which, I think, the architect Patte must have largely contributed, from the many practical suggestions he published. That progress has continued in Paris up to the present hour; it is possible to trace through the reigns of Napoleon, Louis Philippe, and the late Emperor, the ameliorations introduced into the house of the middle-classes. From the staircase specially devoted to the service,—an innovation of this century only, and now the adjunct of even ordinary domestic buildings,—to the hydraulic elevator, which is an innovation of barely ten years ago, the gradations of development are distinctly marked.

Upon the wall are plans of a block of shops and houses built in the newer quarters of Paris some forty years ago; it may be considered typical of the houses which rose during the reign of Louis Philippe, and its development from Pierre le Muet's model is not difficult to perceive. There are also plans of a corner block situated on the Boulevard Malesherbes, and certainly not older than fifteen years. I need merely describe one of many ordinary blocks as I remember them during the last ten years of the Second Empire. Take, say, one near the middle of the Champs Élysées, in a by-street, and with a shop at the street-level. The shopkeeper, perhaps, simply uses his portion of the building as a place of business; he inhabits, with his family, elsewhere. The houses are built round three sides of a courtyard, the fourth side being open to the courtyard of the adjoining block, a division wall existing only to the height of the ground story. In the courtyard are stables and coach-houses, used by the tenants of the principal floors. The approach to the courtyard is under an archway, through a passage about 10 ft. or 11 ft. wide, and the entrance to the principal stairs is in that passage. Thus carriages deposit their occupants under cover at the foot of the stairs. Commanding these stairs, as well as the courtyard and the carriage-entrance, is the porter's lodge, consisting of two small rooms. At the further end of the courtyard is the entrance to a small staircase, used exclusively by the servants and the tradespeople. Each story, above the ground floor, forms one house, the private entrance to which is on the staircase landing of each floor, and the distribution of rooms in each house is the same. It consists, say of eight rooms exclusive of dressing-rooms, a kitchen, and a square hall, or, as it is termed, an ante-chamber. Into this hall open the doors of the dining-room and the drawing-room; also a door leading to a passage communicating with a morning-room and with two bedrooms; on the other side of the hall is a door leading to the servants' corridor, between which and the hall are the doors of two more bedrooms. One room with a cupboard, and perhaps a small larder or pantry, are all that is devoted to the kitchen. Thence a door leads directly to the back stairs, which form the only communication from the very top to the very bottom of the house,—from the cellars in the basement to the servants' bedrooms in the roof; for to each house are allotted two vaults below and two rooms above. If, therefore, five different families occupy the five floors of the building, most of their servants, male and female, sleep on the sixth floor, under the second slope of the mansarde, and the depôts of wine, wood, or coal, are together in the cellars beneath the ground story, below which there are no living-rooms.

In this country, where the system of habitation is completely different, the plan of such a building will not be properly understood, even by yourselves, without previous knowledge of Parisian habits and the routine of Parisian life. Permit me, therefore, to describe an imaginary household occupying the first or the second floor. It is composed, say, of a gentleman and his wife, a daughter just in her teens, a couple of children, a nurse or a lady's maid, a female cook, and a butler or footman. Perhaps there is also a son who is at school or college; and, let me add, with all deference to English conviction, there are not only homes in Paris, but many resound with the cry of more than two children. Husband and wife occupy the two bedrooms in the main building; their dressing-rooms, and often a water-closet, adjoin; and sometimes the gentleman's bedroom is provided with book-cases and a writing-table. The young lady has one of the two bedrooms behind, the two children the other; the nurse or lady's-maid sleeps in a room, perhaps, on the opposite side of the kitchen. The two rooms in the roof are occupied respectively by the cook and the butler. A second water-closet is at the back of each residence; for the servants generally, one is usually found in the basement, and another in the roof. Now for the routine of life. Paris is wide awake, even in the fashionable quarters, at six in the morning; and that through the greater part of the year. Before seven o'clock the porter has opened the great doors of the carriage-entrance, and admitted fresh air into the courtyard, which, I confess, often requires a change of atmosphere. There, a groom is rubbing down a horse, a coachman cleaning a carriage. In the different kitchens, coffee or tea is being prepared, and it will be served before eight o'clock in the various bedrooms. Meanwhile, the dust swept from the sitting-rooms, the hall, the kitchen, and passages, is collected, carried down the servants' stairs, and deposited in the roadway. For this deposit the Municipality returns interest; in fine weather or foul, in summer or winter, the streets of the Capital have been swept, and the dust-carts have disappeared before a few minutes after nine, every (even Sunday) morning. To provide the two daily meals, the mistress, attended by the cook, or the cook alone, goes to market; hardly more than just sufficient for the day is brought home, and usually the purchase is a ready-money one. Part of the secret of French thrift is concealed in that practice, and in the small space given to the kitchen, repulsive as the latter must be to an English housewife whose own beef and mutton emerge from a complete set of apartments presided over by a complete set of domestics. Breakfast is taken between half-past eleven and half-past twelve, dinner about half-past six, in the dining-room. Nor is that room ever used by true Parisians for any other purpose than eating and drinking. It is never occupied as a family living-room. Sometimes, when the housework is done, a maid-servant sews in it, or her mistress may receive a tradesman in it, but that is all. Visits, except of a familiar character, are not paid until after mid-day; as with us visitors are received in the drawing-room. After dinner, all that household matter which is called dirt is deposited in the roadway, as before,—except that, in the evening, the legal hour for making such deposits is after eight o'clock.

Thus, I hope to make it clear that, though a great deal of traffic takes place upon the servants' stairs, very little time is spent by the members of the different families upon the principal stairs. Intimacy between superposed neighbours not only does not ripen, it does not grow; for though on meeting it used to be the custom to bow, they rarely meet. Any communication between them is made through the porter who is the necessary and, if properly treated, the useful caretaker of such houses. His salary is paid by the owner, that is, the freeholder, of the property, including both houses and land. All letters are delivered to the porter, who distributes them; of him the visitor inquires before making perhaps an unnecessary climb. It is he who sweeps the courtyard, the carriage entrance, the staircases; who cleans the staircase windows and lights the lamps; who, at night, opens the great doors to carriages and the small door to pedestrians. He is the janitor, who, night and day, morally chained to the door-step, is responsible for the security of the whole building; and in whose charge a tenant leaves his house during a family migration to the sea-side or a country seat.

The many improvements of the last few years have tended to increase the comfort rather than the elegance of a Parisian home. In the new houses, water is laid on even to the topmost house; a heating apparatus, provided and maintained by the landlord, is lighted during winter in the basement. Warm air, introduced through flues in the walls, is thus carried into the hall of every house. This apparatus, the chief use of which is to warm the principal staircase, also communicates with a hot-closet, arranged in the serving-room attached to each dining-room. Housemaids' closets have also been introduced, though I should add that the work of cleaning floors, steps, and passages, done in this country by housemaids, is intrusted in France to men. Lifts for carrying coals, wood, and wine are here and there visible; the means for facilitating service here and there conspicuous. Hydraulic elevators are to be seen next the staircases of many new blocks of building.* But, even as late as last month, I could not find any intention or desire to increase the proportion of space allotted to kitchen accommodation. Though I saw every kind of improvement introduced into the cooking-range, though there were large cupboards, though there was abundant space for preparing meats and dishes of every kind,—plenty of water and plenty of light,—yet one room sufficed to contain what in London is divided into kitchen, scullery, servants' hall, housekeeper's room, and butler's pantry! I left that room, though, with a regretful conviction that the soups and stews which may be concocted therein will be infinitely more palateable than any that usually issue from the wilderness

* I am sorry to say that Pierre le Muet's book is *not* in the Institute library.

* It may, perhaps, interest the Institute to know that the elevator, or *ascenseur*, now common in Paris, is partly due to a paper read in this room in January, 1864, and I have authority for the statement. Towards the autumn of 1866 the manufacturer of these French elevators happened to be in my office on business; he mentioned his desire to introduce passenger-lifts into the ordinary buildings, and the conversation fell upon those already working in London. To save time, I lent him a copy of the Institute Transactions which contained a drawing, by Mr. Whichcord, of the English hydraulic lift, and an explanation of it by Mr. Easton. Some six months after, two elevators were at work in the Paris Exhibition of 1867; and since then they have been freely used in different parts of the town. In palliation of my own share in the piracy, I beg leave to say that when, at the close of 1868, I placed a hydraulic elevator in a château not far from Paris, it was Mr. Easton who made and fixed it, not his imitator.

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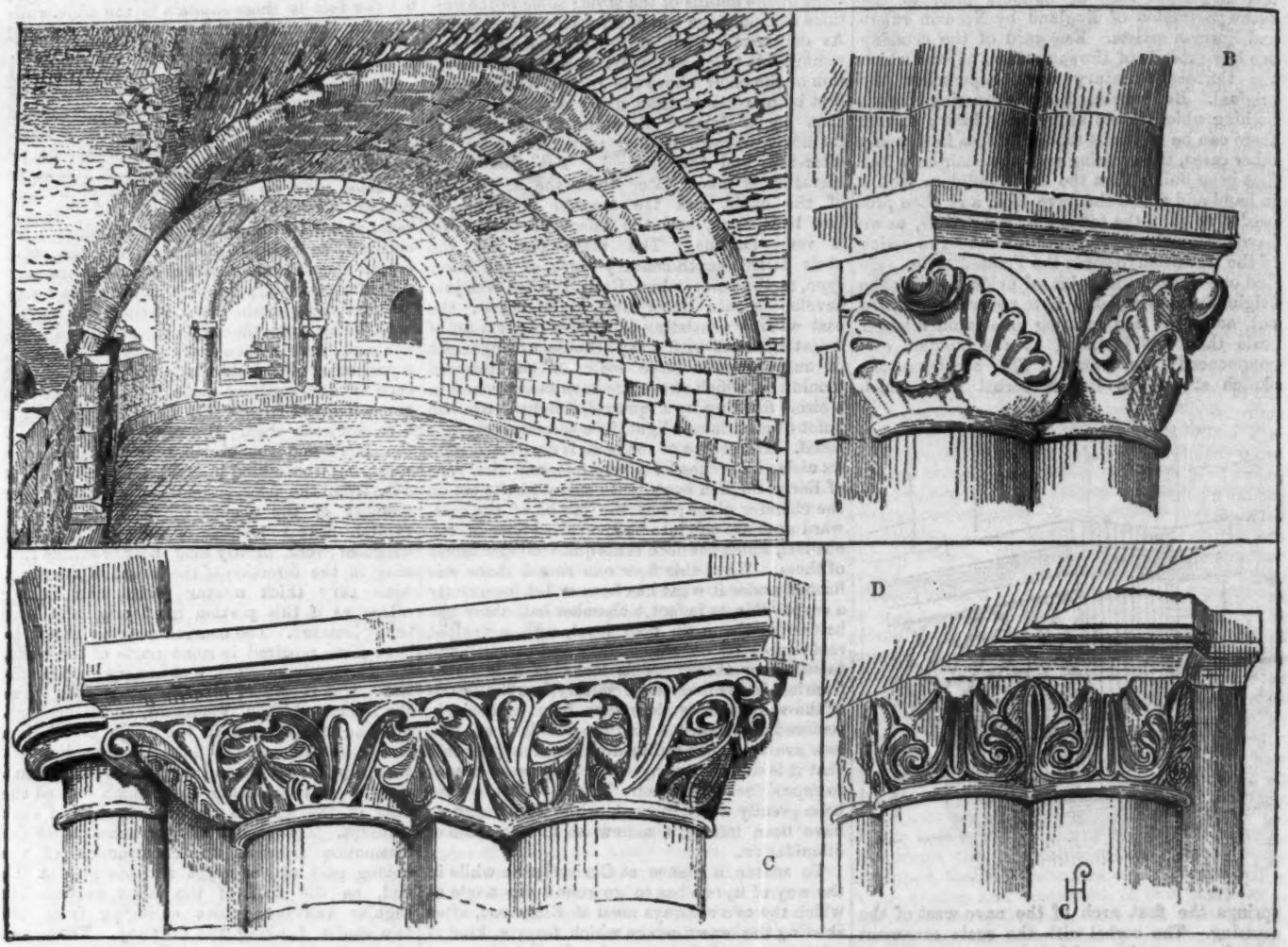

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How in the course of two hundred years the Paris house has grown, may be seen by a comparison of the illustrated books published during that period. A series of model plans and elevations, given to the world by Pierre le Muet in

1663, contains designs for every variety of frontage and depth;* but they are for houses to accommodate a single family. In one, however, arranged to cover a plot of ground about 40 ft. wide by 100 ft. deep, it will readily be seen with what facility the different stories could be divided into distinct sets. Only, comparatively speaking, a small hôtel,—that is to say, a private mansion,—it is built with party-walls on either side, and with the front brought forward to the street alignment. The depth of 100 ft. is divided into four parts: two of construction and two of open space. First there is a block with windows front and back; then a courtyard; then another block with windows on either side; and then a garden. The two blocks are connected by a narrow building which contains the staircase; and thus the courtyard is surrounded on three sides only. The frontage of 40 ft. is in three divisions: a passage in the centre, to the left of which is a stable; to the right, a kitchen. The entrance-door to the house is in a corner at the end of the courtyard. On opening this door, the staircase is immediately in front; and to the left is a lobby leading to two sitting-rooms. To bring the dinner and supper into one of these rooms from the kitchen it is necessary to cross the open courtyard, and the only communication between the latter and the garden is through the sitting-rooms. On the first floor each block contains a set of rooms; the door of each room opens into a lobby or hall, which is approached through a single door communicating with the central staircase. In the block facing the street, the set of rooms consists of a small study, a bed-chamber, and a dressing-room; in the block between the courtyard and the garden the set consists simply of a bed-chamber and a dressing-room, called the *garde-robe*, the invariable appanage of a bed-chamber in the time of Louis XIV. It was used not only for the wardrobe, but often for an attendant's bed; it contained not only the small basen and jug for which a complete washing apparatus has lately been substituted, but also that *chaise-percée* which spared to the Great Age any complication of pipe or drain. Such a distribution of plan, repeated on the second and third stories, enabled an almost patriarchal system of habitation to be pursued. One set of rooms was occupied by the chief of the family; his married daughter, say, occupied, with her husband, another set; the eldest son another; the younger children another, and so on. When, after fifty, or a hundred, years, this house was relinquished by the family of its original owners, and probably builders; when, perhaps, it fell into the hands of a speculator, nothing was easier than to apportion the different stories in either block to different tenants. The staircase, common to the various groups of one great family, was no less suitable for groups of several less distinguished families; the outer door of the lobby belonging to each set of rooms became the entrance to a small house. The kitchen and stable were converted into shops, the small larder, between the stairs and the kitchen, became a porter's lodge. By a further subdivision of the different sets of apartments, it was easy to add a small kitchen to each. No radical improvement upon the kind of house I have attempted to describe was made until after the Revolution. A great deal of progress then took place, to which, I think, the architect Patte must have largely contributed, from the many practical suggestions he published. That progress has continued in Paris up to the present hour; it is possible to trace through the reigns of Napoleon, Louis Philippe, and the late Emperor, the ameliorations introduced into the house of the middle-classes. From the staircase specially devoted to the service,—an innovation of this century only, and now the adjunct of even ordinary domestic buildings,—to the hydraulic elevator, which is an innovation of barely ten years ago, the gradations of development are distinctly marked.

Upon the wall are plans of a block of shops and houses built in the newer quarters of Paris some forty years ago; it may be considered typical of the houses which rose during the reign of Louis Philippe, and its development from Pierre le Muet's model is not difficult to perceive. There are also plans of a corner block situated on the Boulevard Malesherbes, and certainly not older than fifteen years. I need merely describe one of many ordinary blocks as I remember them during the last ten years of the Second Empire. Take, say, one near the middle of the Champs Élysées, in a by-street, and with a shop at the street-level. The shopkeeper, perhaps, simply uses his portion of the building as a place of business; he inhabits, with his family, elsewhere. The houses are built round three sides of a courtyard, the fourth side being open to the courtyard of the adjoining block, a division wall existing only to the height of the ground story. In the courtyard are stables and coach-houses, used by the tenants of the principal floors. The approach to the courtyard is under an archway, through a passage about 10 ft. or 11 ft. wide, and the entrance to the principal stairs is in that passage. Thus carriages deposit their occupants under cover at the foot of the stairs. Commanding these stairs, as well as the courtyard and the carriage-entrance, is the porter's lodge, consisting of two small rooms. At the further end of the courtyard is the entrance to a small staircase, used exclusively by the servants and the tradespeople. Each story, above the ground floor, forms one house, the private entrance to which is on the staircase landing of each floor, and the distribution of rooms in each house is the same. It consists, say of eight rooms exclusive of dressing-rooms, a kitchen, and a square hall, or, as it is termed, an ante-chamber. Into this hall open the doors of the dining-room and the drawing-room; also a door leading to a passage communicating with a morning-room and with two bedrooms; on the other side of the hall is a door leading to the servants' corridor, between which and the hall are the doors of two more bedrooms. One room with a cupboard, and perhaps a small larder or pantry, are all that is devoted to the kitchen. Thence a door leads directly to the back stairs, which form the only communication from the very top to the very bottom of the house,—from the cellars in the basement to the servants' bedrooms in the roof; for to each house are allotted two vaults below and two rooms above. If, therefore, five different families occupy the five floors of the building, most of their servants, male and female, sleep on the sixth floor, under the second slope of the mansarde, and the depôts of wine, wood, or coal, are together in the cellars beneath the ground story, below which there are no living-rooms.

In this country, where the system of habitation is completely different, the plan of such a building will not be properly understood, even by yourselves, without previous knowledge of Parisian habits and the routine of Parisian life. Permit me, therefore, to describe an imaginary household occupying the first or the second floor. It is composed, say, of a gentleman and his wife, a daughter just in her teens, a couple of children, a nurse or a lady's maid, a female cook, and a butler or footman. Perhaps there is also a son who is at school or college; and, let me add, with all deference to English conviction, there are not only homes in Paris, but many resound with the cry of more than two children. Husband and wife occupy the two bedrooms in the main building; their dressing-rooms, and often a water-closet, adjoin; and sometimes the gentleman's bedroom is provided with book-cases and a writing-table. The young lady has one of the two bedrooms behind, the two children the other; the nurse or lady's-maid sleeps in a room, perhaps, on the opposite side of the kitchen. The two rooms in the roof are occupied respectively by the cook and the butler. A second water-closet is at the back of each residence; for the servants generally, one is usually found in the basement, and another in the roof. Now for the routine of life. Paris is wide awake, even in the fashionable quarters, at six in the morning; and that through the greater part of the year. Before seven o'clock the porter has opened the great doors of the carriage-entrance, and admitted fresh air into the courtyard, which, I confess, often requires a change of atmosphere. There, a groom is rubbing down a horse, a coachman cleaning a carriage. In the different kitchens, coffee or tea is being prepared, and it will be served before eight o'clock in the various bedrooms. Meanwhile, the dust swept from the sitting-rooms, the hall, the kitchen, and passages, is collected, carried down the servants' stairs, and deposited in the roadway. For this deposit the Municipality returns interest; in fine weather or foul, in summer or winter, the streets of the Capital have been swept, and the dust-carts have disappeared before a few minutes after nine, every (even Sunday) morning. To provide the two daily meals, the mistress, attended by the cook, or the cook alone, goes to market; hardly more than just sufficient for the day is brought home, and usually the purchase is a ready-money one. Part of the secret of French thrift is concealed in that practice, and in the small space given to the kitchen, repulsive as the latter must be to an English housewife whose own beef and mutton emerge from a complete set of apartments presided over by a complete set of domestics. Breakfast is taken between half-past eleven and half-past twelve, dinner about half-past six, in the dining-room. Nor is that room ever used by true Parisians for any other purpose than eating and drinking. It is never occupied as a family living-room. Sometimes, when the housework is done, a maid-servant sews in it, or her mistress may receive a tradesman in it, but that is all. Visits, except of a familiar character, are not paid until after mid-day; as with us visitors are received in the drawing-room. After dinner, all that household matter which is called dirt is deposited in the roadway, as before,—except that, in the evening, the legal hour for making such deposits is after eight o'clock.

Thus, I hope to make it clear that, though a great deal of traffic takes place upon the servants' stairs, very little time is spent by the members of the different families upon the principal stairs. Intimacy between superposed neighbours not only does not ripen, it does not grow; for though on meeting it used to be the custom to bow, they rarely meet. Any communication between them is made through the porter who is the necessary and, if properly treated, the useful caretaker of such houses. His salary is paid by the owner, that is, the free-holder, of the property, including both houses and land. All letters are delivered to the porter, who distributes them; of him the visitor inquires before making perhaps an unnecessary climb. It is he who sweeps the courtyard, the carriage entrance, the staircases; who cleans the staircase windows and lights the lamps; who, at night, opens the great doors to carriages and the small door to pedestrians. He is the janitor, who, night and day, morally chained to the door-step, is responsible for the security of the whole building; and in whose charge a tenant leaves his house during a family migration to the sea-side or a country seat.

The many improvements of the last few years have tended to increase the comfort rather than the elegance of a Parisian home. In the new houses, water is laid on even to the topmost house; a heating apparatus, provided and maintained by the landlord, is lighted during winter in the basement. Warm air, introduced through flues in the walls, is thus carried into the hall of every house. This apparatus, the chief use of which is to warm the principal staircase, also communicates with a hot-closet, arranged in the serving-room attached to each dining-room. Housemaids' closets have also been introduced, though I should add that the work of cleaning floors, steps, and passages, done in this country by housemaids, is intrusted in France to men. Lifts for carrying coals, wood, and wine are here and there visible; the means for facilitating service here and there conspicuous. Hydraulic elevators are to be seen next the staircases of many new blocks of building.* But, even as late as last month, I could not find any intention or desire to increase the proportion of space allotted to kitchen accommodation. Though I saw every kind of improvement introduced into the cooking-range, though there were large cupboards, though there was abundant space for preparing meats and dishes of every kind,—plenty of water and plenty of light,—yet one room sufficed to contain what in London is divided into kitchen, scullery, servants' hall, housekeeper's room, and butler's pantry! I left that room, though, with a regretful conviction that the soups and stews which may be concocted therein will be infinitely more palateable than any that usually issue from the wilderness

* I am sorry to say that Pierre le Muet's book is not in the Institute library.

* It may, perhaps, interest the Institute to know that the elevator, or *ascenseur*, now common in Paris, is partly due to a paper read in this room in January, 1864, and I have authority for the statement. Towards the autumn of 1866 the manufacturer of these French elevators happened to be in my office on business; he mentioned his desire to introduce passenger-lifts into the ordinary buildings, and the conversation fell upon those already working in London. To save time, I lent him a copy of the Institute Transactions which contained a drawing, by Mr. Whichcord, of the English hydraulic lift, and an explanation of it by Mr. Easton. Some six months after, two elevators were at work in the Paris Exhibition of 1867; and since then they have been freely used in different parts of the town. In palliation of my own share in the piracy, I beg leave to say that when, at the close of 1868, I placed a hydraulic elevator in a château not far from Paris, it was Mr. Easton who made and fixed it, not his imitator.

under or above the ordinary clubs, taverns, and houses of London.

But the English metropolis has an advantage which neither friend nor enemy fails to envy or remark. The capital of a country guarded by the sea, no fortifications have impeded its spread. In its very centre, railways connect street with street; they bind compact suburbs to the heart of town. Within a radius of Bow steeple, but far beyond the sound of Bow bells, the number of residents has not only decreased, the few who have lately resided there become year by year distinctly fewer. There, the demand for office-room extends to the uppermost stories of new and old buildings. Away through the Strand, Holborn, Regent-street, Piccadilly, and Pall-mall—over all the nondescript mass of Central London,—the traveller reaches great residential squares, long lines of residential streets, in which an army of serried houses shelter innumerable families of rank, wealth, and position. Past the parks, along the northern and western roads, across the bridges into Surrey and Kent, back through the City into Essex, new towns have swallowed up villages and hamlets; have met at their confines; and running over four counties, interminable lines of thoroughfare are bordered with equally interminable lines of houses. The majority of these houses are each inhabited by one and the same family. To reflect seriously over the space they cover, and the income that each house represents, is to invoke a reality of individual ease and collective wealth surpassing, in a better fashion, the magnificence of Ancient Rome, and even the wildest flight of archæological surmise. A system which gives to each family not only the superficial area of a plot of land, but also the whole cube space above it, reaching, were it possible, to the nearest heaven, must be a right system. Any one of either country conversant with habitual phases of life in Paris and London will freely admit the advantages of a system that grants to the head of a household the partly poetical licence of breathing his native air on his own ground.

My faint description, however, includes only the city of London, the suburbs of London, and residential London. I passed over the heart of London, which is neither purely commercial nor purely official, neither entirely residential nor specially monopolised by trade or manufactures. To describe the houses there, I shall have to repeat much that I have said in other places, and much that has been said about them by other people. First let me call attention to the map hanging on the wall.* An attempt is made to distinguish by two opposing tints the isolated parts which are purely residential, and the great mass of houses the occupation of which is nondescript. The greater portion of the grey surfaces are lodging-houses, or, more correctly, shops and houses tenanted by more than one family or group of individuals. Within a certain radius of Temple Bar, even within a certain radius of Regent-circus, the great mass of the residents are lodgers; they occupy a story or two stories, a set of rooms, or even a single room. It was not always so. Of the causes which lead to the disintegration of a residential neighbourhood, of shops and houses in the centre of London, two are paramount; one the desire to escape, before and after business hours, from the surroundings of business; the other, the fact that the rent of floors and single rooms let separately will often return to the owner enough annually to pay for a shop or an office in the centre, and a private house or a villa at the circumference of town. The consequence is inevitable; in the old houses the private house-door becomes a public entrance, and the staircase, originally private, becomes common to the different groups who use or inhabit the different stories above the shop, which alone remains in the undivided possession of the householder. When it is a question of rebuilding, observe what happens in scores of cases. The slice of land, cut ninety-nine years ago,—and just the kind of slice fitted for a shop or dwelling-house occupied by one and the same family,—possesses a frontage to the street, say, of 18 ft. That width cannot be extended because neighbours on either side,—leaseholders, doubtless, of similar slices,—have their own leasehold obligations to sustain. The unfortunate tradesman, ordered by his ground-landlord to rebuild, devotes the two lowest stories of the new building to business purposes; he lives in the country, and the superstructure, raised over his shop, is of no use to him; yet this superstructure often contains as much cubical space and material as are to be found in a suburban villa or a small private house. Its three or four stories consist of two rooms over two rooms, reached by a narrow and steep stair. The horizontal and hollow divisions between the stories are of deal and mortar; 1 in. of wood and 1 in. of plaster form the only solid barrier between one story and another. This same superstructure is offered indiscriminately to professional men as offices, to bachelors, and even married people, as residences; the different floors of which it is composed return perhaps three per cent. interest per annum for the outlay involved in their erection and maintenance. To rebuild under such circumstances is hopelessly unprofitable. Business men will not climb above a second-floor, nor will even a confirmed club-man accept a "home" in which neither a chop can be cooked nor a servant lodged; in which the storage of a ton of coal is an impossibility,—where, by night, the staircase is pitch-dark, and by day the house-door is totally unguarded.

A short time ago, when the London estate of the Duke of Bedford was left without a steward, it occurred to me that the moment was favourable for making an appeal to the Duke himself on behalf of some of his Grace's tenants, who, though forced to rebuild on the old system, did not occupy the upper portions of their houses; and who vainly attempted to let these upper portions, either as offices, chambers, or residences. After having mentioned cases which had come under my notice, I said:—

"Take an instance in which the leaseholder, one of your Grace's tenants, proposes to build over his shop three or four superposed residences, each planned as a distinct home. He borrows two pieces of land in order to obtain a frontage of, say, 50 ft., and your Grace's agent says to the tenant:—'You may have, if you want them, twenty pieces of the Duke's land, but it is on condition that you rebuild on the very spot where a party-wall has stood for ninety-nine years, another similar wall, which shall stand for another seventy or eighty years!' That is to say, he may build, if he likes, upon the two pieces, one house, but he must plant in the very centre of it a thick wall."

The Duke of Bedford was good enough to send me his "sincere thanks" for my communication; but in so doing he said that the views of his agents had been misrepresented in the paragraph I have just quoted; or rather that he was bound to hold that opinion until he was better informed of the accuracy of my statement. Now, such a restriction as that to which I alluded, and which used to exist on the Bedford estate, is just one of those impediments to reform in shop and house accommodation about which an architect may appropriately confer with his colleagues; and such a course was pursued this very day last year in this room. In a paper, treating of house building and the business requirements connected with it, an Associate of our body described a house he had erected in King-street, Covent-garden. Mr. Knight told us how,—"With an extraordinary view of the possibilities of future London, the agents of the noble Duke required that the building with a frontage of 36 ft. only, should be so planned as to admit of ready conversion into two dwellings." The agent's idea of a dwelling for Central London was,—I say was, because another and a better steward now rules the estate,—a house about 60 ft. high, supported on a shop-front 18 ft. wide. Any one who will look carefully at some of the houses erected at the Strand extremity of the Bedford estate, since 1870, will perceive here and there two occupied by one and the same tenant. In Bedford-street, 22 and 23, as well as 29 and 30, have been planned as two old-fashioned houses, though in each case the leaseholder has obviously desired to build one house, for he has made holes in his superfluous party-wall wherever he has found it necessary to get from one side of his own building to the other.

In the Appeal I ventured to make to the Duke, the necessity of a modified width of frontage was urged on the plea that much of the cubical space now absolutely wasted over the shops upon his Grace's estate could be utilised for residential purposes, and to the undoubted profit of the owners. Instead of building upon two slices of land, each, say, 25 ft. in width, two houses—each composed of a shop and nine or ten rooms over it, with two dark kitchens, two servants' attics, and two water-closets,—would it not be better to build upon the two slices, containing together a frontage of 50 ft. or 52 ft. to the street, one block of buildings? Such a block is shown in the drawing, in which the plans of certain houses as they are, on the Bedford Estate, are contrasted with the plans of houses as they might be. The suggested block contains two shops, extending over the whole surface of the site, except those portions occupied by a small internal area, by the staircase and the two entrances to the upper part of the building. Under each shop, and communicating with each, there may be easily arranged a set of rooms, a lavatory and a water-closet, stores, and cellars for the exclusive use of the shopkeeper. The story immediately over the shops is reached through a special entrance from the street by a special stair; and it contains eight business offices. Above, on the first floor, on the second floor, and on the third floor, there are six distinct town residences, each complete in itself, and closed by a private door opening to the staircase landing, just as an ordinary house-door opens to the street. Each residence consists of an entrance-hall, a sitting-room (17 ft. by 13 ft.), two bedrooms and two closets; a lady's pantry, a kitchen and a scullery; a larder, a coal-store, and a water-closet; and a servant's bedroom. A goods-lift from bottom to top of the staircase communicates with the landing of each story; and coals can be shot into each coal-store from the landing itself. The central staircase can be crowned, not only with a skylight, but also a lantern having upright openings, arranged both for light and ventilation; a plate of glass over the entire width of each private door on each landing, provides a sure cross light (as will be seen on the plan) on every story. In fine, the whole block of shops, offices, and residences may be easily contained in a height of 56 ft. from the street pavement to the ceiling of the topmost house.

The revenue from the two houses as they are, each with its two rooms over two rooms, the shop, workrooms at the back, and the central superfluous party-wall, may be safely calculated in the following manner:—

Shop No. 1, with basement story of both houses and the buildings at the back...	£350	0	0
Shop No. 2.—Ground-level only.....	150	0	0
First-floor of the two houses	180	0	0
Second-floor " "	140	0	0
Third-floor " "	100	0	0
Fourth-floor (for two housekeepers)	0	0	0
Total annual revenue.....	£920	0	0

The probable revenue from the block of shops offices, and houses, as it might be, or as I suggest it, is 1,420*l.*, thus:—

Two shops, ground-floor and basement...	£700	0	0
Eight offices, mezzanine	300	0	0
Two residences, first-floor	140	0	0
Two ditto, second floor	120	0	0
Two ditto, third-floor	100	0	0
Total annual revenue.....	£1,420	0	0

Calculating the cost of the block as it might be, at 2,000*l.* more than that of the two houses as they are, and allowing 10 per cent. interest per annum on that sum (all other expenses being equal) the balance of profit in favour of the block, as it might be, is 300*l.* a year. When, moreover, it is remembered that the upper portions of the houses as they are remain vacant often for a quarter and even a year; that entire houses in the neighbourhood of Covent-garden have remained unlet for years,—I think it will be difficult for any one, aware of the actual demand for small houses arranged on the horizontal system, to shut his eyes to the more-than-probable advantages I have attempted to point out, especially when his ground-landlord compels him to rebuild.

Take another example: I have chosen an actual island of shops and houses in the very midst of fashionable trade. Bounded on the principal side by Regent-street, it has Warwick-street on the east, Beak-street on the north, and Regent-place on the south. The larger portion of the island is the property of the Crown; and from the circumstances of its transfer at the beginning of every reign, it may be called national property. Originally there were twenty-eight shops and houses upon it; there are now only twenty. The two houses, in the centre fronting Regent-street, have been amalgamated; in course of time these two houses have absorbed another house at the back of them, and possessing a frontage in Warwick-street; then two more houses, south of the latter, in the same street, have also been absorbed. Thus five houses have become one house. At the corner of Beak-street and Regent-street, three houses have become one. Again, No. 138, Regent-street has run through to No. 32, Warwick-street, and the two houses are now one. In Regent-place, two houses, forming together about 30 ft. frontage, have become one house. Yet the character of the construction has not changed. The main divisions between the twenty-eight houses still exist; only holes, large and small, have been made in the party-

* A Map of the Heart of London, published in the *Builder*, vol. xxxiv., p. 305.

walls. This desire, or rather necessity, for lateral extension,—that is to say, for space at the same level,—is experienced all over Central London; and the process of filling up the internal breathing area of one island very much resembles that of another. In this instance, twenty-eight houses were built close together, so that the principal front of each formed the continuous elevation of four streets; though it was only possible for draughts of fresh air to enter the internal area at intervals, still, after a fashion, it was breathing-space. Bit by bit, this breathing-space has been filled up, more particularly on the portion belonging to the Crown, or rather the nation; half a dozen well-holes remain to convey light and air to the lower stories. I have tried to show how this island, unhealthy and uncomfortable, might, under the Parisian system of plan, be healthy and comfortable; and in order that my motives may not be misunderstood, let me say that, as the Crown portion of the island is above the law, so, for more years than I can live, must it remain beyond possibility or hope of improvement in the direction to which the makeshift alterations of the different tenants unmistakeably point.

I have divided the island into four blocks, separated by two party walls. Take the two southern blocks, partly in Regent-place: they hold six shops, as I have chosen to partition them; they can with equal facility hold only two shops without destroying the points of support sustaining the superstructure. The same remark applies throughout. Now take the frontage, towards Regent-street, of the houses as they are: there are twelve houses and, say, ten have private entrances to the upper floors. By allowing 3 ft. to each private entrance, 30 ft. of frontage are used; I propose, instead of ten narrow passages of 3 ft. each, to give three carriage-entrances of 10 ft. each. Take the frontage to Warwick-street: the London system divides it into eleven parts or houses, and if each is to have a private as well as a shop entrance, nine at least of those houses must have doors in Warwick-street; the nine doors therefore engross 27 ft. of frontage. I propose, instead, to give two carriage-entrances open to the sky, of together about 30 ft. By the present system, 15 ft. of the frontage towards Beak-street must be given up to provide doors; and 12 ft. of that towards Regent-place must be sacrified to the same purpose. By the Parisian system, the whole frontage of both Beak-street and Regent-place can be devoted to shop-windows and shop-doors. Hence by the Parisian system, the total economy of shop-frontage round the entire island is 24 ft. Consequently, though about 30 ft. run of frontage is lost by setting back the line of suggested buildings in each of the surrounding streets, the run of frontage for my shops is only 6 ft. less than before the widening of the four streets.

I provide twenty-one ordinary shops; without the removal of even one support, they can be turned into five extraordinary shops, or, by the addition of a few brick partitions removable at will, they can be converted into thirty shops. Of the suggested twenty-one shops, seventeen possess three stories; and, collectively, the mezzanines of these seventeen shops contain thirty-three rooms, some of them 22 ft. by 17 ft. in size.

In the island as it is, the exact number of rooms above the actual shops is unknown to me; but I will admit that, above the two lower stories, the superstructure holds 182 rooms,—an estimate that gives fourteen more than the ordinary two rooms to each story of each house; and some of these are mere "attics." The largest of them are of the kind usual to houses of 18 ft. frontage and 36 ft. depth. Nor are the rooms in sets; out of the 182, at least 150 are mere single rooms, forming no sort of habitation other than it is usual to extemporise in the heart of the metropolis. I offer instead:—

Three complete and distinct houses of 14 rooms each, in all	42 rooms.
Three ditto of 10 rooms each, in all	30 ,,
Three ditto of 9 rooms each, in all	27 ,,
Ten ditto of 5 rooms each, in all	50 ,,
Total: 19 houses, containing together	149 rooms.

Thus, though it is a matter of secondary importance, I obtain 149 + 33 rooms over my suggested shops to exactly counterbalance the estimated 182 rooms over the shops as they are. There is no time now to describe the plans; they must speak for themselves. There are features, however, in the suggested island as it might be which are strange to England; but some of those features may be traced to houses in London before the Fire. The courtyard *was* a thoroughly English institution; it was Dutch influence that caused it to go out of fashion. To the courtyard a carriage-entrance was necessary; it is this broad, lofty archway that would obviate the discomfort peculiar to Central London of living over a shop. The continual modification of the vehicle in which ladies and gentlemen are carried through the streets, seems to point to the admitted necessity, during the course of centuries, for covered entrances to houses. Look back to the time when most people rode a-horseback, and the horses entered, with their burdens, the Mediæval hall. Coaches were not common until many years after the death of Elizabeth. Before her reign a litter was the vehicle of ceremony, and there are records of great ladies being carried into Westminster Hall. Some two hundred years after, the covered chair was used, and in it a lady was deposited, not only on the step, but in the very entrance-passage of her house. Fielding described a certain Lady Bellaston who "was set down in a street not far from Hanover-square, where, the door being opened, she was carried in," that is, in the Bath chair she had hired. But at the present moment, in our ordinary houses, no lady attired for a ball or a dinner can enter a carriage without exposure to the elements. True, each of the best houses possesses a portico; but its shape counteracts the purpose of its erection, for it does not cover the street pavement, and in summer it excludes the sun, in winter it invites the rain. The continued use of the courtyard by the Parisians has left the street-pavements of the French capital unpierced by those pitfalls to be seen in front of every tavern and many shops of our own metropolis; neither trap-doors nor coal-shoots render the boulevards inconvenient to pedestrians. A courtyard is the proper place for the delivery of coals and wood, of beer and wine barrels, for thereby the obstruction of ordinary traffic is avoided. But I do not advocate building round a closed courtyard; my plans show an attempt to keep the inner parts of the island free and airy.

I have something to say about the doors and windows of the suggested houses. Of course, after a certain hour of the evening, the great doors of the carriage-entrances, the great gates at the other end of the courtyard, would be closed. When the bell rang it would be necessary for the porter to open them, but he ought not to leave his post in order to open doors or gates; from his box he should pull a *cordon* as it is everywhere the custom in Paris. Such little things have more to do with the proper organisation of superposed houses than is probably believed.

The kind of window has also a great deal to do with the aspect both of the exterior and the interior of a town house. The look of dull care which the streets of London habitually wear is enhanced by the absence of two things always seen in Paris: a large casement and a white embroidered curtain covering the whole window. A window that descends to the floor and ascends to the ceiling, that can be so opened as to permit a volume of fresh air to enter, is the logical window of our time. I know that the sash is said in England to be the only frame that will keep out climatic discomforts,—that the rain always penetrates an English "French" casement,—and that the balcony which such a window often necessitates is unfitted for fog and rain. But the truth is, that though English joinery is often more carefully made than that of Paris, the ordinary Englishman does not know how to make a real French casement, the wood of which must be of small dimensions, and either oak, teak, or mahogany; while the ordinary English smith, whose locks and keys surpass all others in the world, has not yet contrived any sort of fastening comparable to the *espagnolette* and the *crémone* of French manufacture.

It is also maintained that because the climate of this country is bad, Englishmen do not desire to get out of, or even look out of, window. Balconies are, therefore, useless excrescences. Surely a balcony has a purpose entirely distinct from mere pleasure or taste; it enables the ordinary servant to clean the exterior of the windows, to brush down the outside of the house, and in summer it helps to give freshness to a room. To my mind, our London summers, were they but courted, might be made as agreeable as those of the French capital. We begin, though, by believing that both the English climate and the English metropolis are incurable plagues sent us for our mortification; and every appliance which, in the course of years, has served to make the climate of Paris delightful, is rejected in London as impracticable or superfluous. If, in India, Englishmen used the same arguments as they use here to maintain the heart of London in its present condition of discomfort, half our countrymen in the Empire would die of heat, dust, and mosquitoes before they had time to contract any serious disease.

My paper, of which this is only an abridgement,* contains one or two points of importance relating to the construction and organisation of houses-in-flats; it also embodies a description of the method of building such houses in Paris. I would particularly direct your attention to the manner in which the Parisians make the horizontal party divisions between the houses: also to the lintels of rolled iron and plaster-concrete they use for covering wide openings, both within and without the shops. For I take it to be a paramount obligation on the part of those who pretend to build houses-in-flats that the horizontal divisions between each be fire-resisting; and it should be remembered that neither wrought nor rolled iron in a naked state resists fire, that oak will burn, and that deal or pine is simply inflammable. There are systems of floor construction used in England, by which the rolled iron joists are almost entirely enveloped in concrete; and if that concrete be composed of materials that have already passed through fire, such floors may be considered fire-resisting. I would not, however, introduce much iron into the floors. It will be seen on reference to the plan of houses, as they might be on the Bedford Estate, that each house is entirely surrounded with a brick-wall, and that in the middle there is a vertical support which runs from bottom to top of the whole building. This support may be an iron column enveloped in fire-clay, or, I would prefer a pier of blue bricks built in cement. With this support ten comparatively small rolled joists will suffice for the framework of each floor; the dotted lines on the etched half of the block indicate where those joists should be placed. I would couple them on the French system, and thus make solid lintels protected top and bottom with real plaster of Paris. The horizontal space between these lintels and the walls should be filled with fire-resisting concrete. Then having roughly plastered the walls and ceilings; having finished the staircase to both the offices and the residences; having closed the building throughout with shop-shutters and house-windows; having established the position of the water-closets; having put the lift in its place; having fixed the private entrance-doors to each residence from the staircase; and having duly installed a care-taker in a box on the ground story,—I would leave the whole building to dry while possible tenants paid probable visits, or offered their own ideas as to the manner in which they would arrange the shops and their basements, the partitions of the mezzanine, and the distribution of rooms in the different residences. That is the method which has been found successful, as regards shops, in Paris; and it is a method lately adopted in the City of London. But I have not yet seen chambers or houses-in-flats offered to the public in the manner I have described,—where the whole superficial area of the residence is left free,—the entrance, the fireplaces, the windows, and the water-closet being the only fixed points therein.

A systematic organisation of the whole block is of the utmost importance. At the present moment it is usual for the landlord of a house to make a bargain with an entire family of a class below that of ordinary domestic servants. This family lives either in the basement or the roof. In one case, the foul air generated below rises up the staircase and distributes itself in the different apartments; in the other case, the foul air of the apartments cannot escape through the staircase, because of the heaviness of the atmosphere above,—a heaviness to which the lower classes accustom themselves in their homes. There is no necessity to house an entire family for the sake of lighting and guarding the staircase. One of the useful body of commissionnaires is just the man to take care of such a block; and he should be made responsible for the guarding, cleaning, lighting, and general superintendence of the public parts of the building. His own home might, perhaps, be in the neighbourhood; but, while on duty, he would be entirely

* The original paper, which covers more than thirty-two pages of the Institute Transactions, contains four illustrations by the author.

removed from any connexion with his own domestic difficulties or delights. A cellar for coals under the staircase would suffice for the four sets of offices on the mezzanine, and a supply sufficient for the day could be stored in each. The shopkeepers must have, as they now have, their own staff of cleaners. The individual completeness of the six residences leaves to the holder of each the duties and responsibilities of housekeeping. Without going into details, I think an examination of the suggested distribution of one of the six residences,—a distribution which can be made with wood and plaster partitions,—will explain many things that perhaps an imperfect description has left obscure.

Reflections obviously force themselves upon people who have inhabited, for a consecutive period, the thoroughfares of both Paris and London, which do not so readily occur to those who, familiar with one capital, know the other only by periodical visits. If it ever be deemed desirable to erect, in the centre of our metropolis, houses planned like those I venture to submit to your criticism, the details and results of the Parisian system cannot be too minutely examined. Thus, the general aspect of a city has an effect for good or evil upon the population it contains. Why, with the majority of travellers, does Paris inspire liveliness and a desire to remain in town? London, sadness and a desire to quit it? Some say it is the climate; and certainly the sky of Paris is brighter during the greater part of the year than the sky of London even in summer. But the atmosphere of Calcutta is much clearer and brighter seven months in twelve than that of Paris in June; yet the sun, far from concealing the filth that encumbers the native town of Calcutta,—far from brightening the dead walls, the closed shutters, and vacant verandahs of the English quarter,—only heightens the dreariness and even disgust which the Palaces of Chowringhee arouse in a breast possessing artistic appreciation. The most consummate architecture is incomplete without the constant presence of its maker; only a ruin assimilates with solitude. Buildings, even the most beautiful, must be inhabited before they can present a cheerful countenance. Above the business-level of Central London there must be houses in which families who desire to live in the heart of town can reside with comfort and decency. There must be windows that will open; balconies upon which to stand; horizontal divisions that will not burn; staircases lighted, guarded, and cleaned. Did any architect ever place the elevation of a typical London house side by side with that of a typical Paris house? The parlour-window that commands a dust-bin in the area; the sheet of stone, supported upon cast-iron brackets, and called a balcony; the "French" casement that the inmates dare not open; the muslin rag protecting the two lowest panes of the second-floor window, and called a bedroom curtain; the unfinished female head and shoulders caught in the guillotine of a top window,—they are things of beauty compared with that other front, frowning upon a back garden in which the dying lilac-bush, that never dies, shelters a plantation of mustard and cress. But to partly understand the effect produced on a traveller by the aspect of Central London, the Londoner should visit it on that day when every place of intellectual recreation is closed; while a score of church-bells are tolling a hundred housekeepers to prayer; while creatures who, under equal laws and just taxation, might have been decent men and women, crouch in filthy passages and courts—affording a spectacle such as cannot be seen in any, even the meanest, part of Paris. Yet it was not always so. Little more than a hundred years ago, Paris was celebrated for the black and pestilential mud that covered it. The houses in the narrow streets were black and dilapidated; the social condition of the poorer inhabitants was not much better than that of the people whom Juvenal handed down to perpetual execration. The improvement of the Capital, as it is now, commenced only when the last vestiges of feudality succumbed to the national decree, when the traditional privileges of a minority ceased. Even well-to-do families had hitherto been forced to extemporise homes in worn-out and discarded houses, until an age of great benefactors, whose splendour only a few enjoyed, gave place to one of benefits in which all could fairly participate.

I have sought to show that, in spite of much that is said to the contrary, architects cannot alone make architecture; our profession is virtually powerless to render the centre of London habitable as Paris is inhabited. Even if the Legislature compelled leaseholders to build substantially for the benefit of their ground-landlords, all reform in the heart of London must be abortive which presupposes every new house to be the residence of a single family. There is only one method of planning houses for the occupation of two different classes of holders; and the restrictions often imposed by powerful landowners or their agents, the varying and conflicting lengths of leasehold tenure, the rooted prejudice even of classes likely to gain by reform,—and, worse, the circumlocution of English law,—oppose a formidable barrier to the introduction of that method. For my part, I sincerely believe that the Roman custom, improved by Palladio, and developed by generations of Frenchmen, is a system by which buildings can be made to hold under a scientific distribution of plan—healthily and comfortably,—twice as many people as now inhabit the irregularly crowded houses of our bye-streets and slums. I venture to think that by the utilisation of actual slums, with careful financial management and legislative aid, houses such as I have described could be advantageously built, not alone for the middle-classes, but for the working-classes; and that they would return eight if not ten per cent. per annum on the outlay for cost of land, construction, and maintenance. They would possess the additional advantage which all Englishmen appreciate, of being, not barracks, taverns, or co-operative hotels, but,—purely and simply,—homes. A word in conclusion. I have said nothing that has not been urged now for many years.* The applicability of the Continental system to Central London was a favourite subject of discussion among earlier members of our body. One name, which will recal to a few seniors agreeable memories of the past, is linked with former attempts to gain the public ear. The arguments, used twenty-two years ago, by the late Mr. Arthur Ashpitel, are still unanswered. The few crude attempts that have been made since his time,—the domestic residences which have been offered to London under the name of "flats,"—are, with singular exceptions, as unlike the Parisian model as an English mansarde differs from its original prototype. Happily we possess among us Mr. Ashpitel's partner and junior; our chief vice-president, from his vast experience in London building, is able to point out the difficulties which environ and impede at every step the introduction of buildings to Central London fitted for the present character of its occupation. The time for action is ripe; and if at this moment, while thousands of pounds are being lost to the metropolitan ratepayers on the vacant borders of our new streets; while thousands of mean houses, already condemned, await the order for demolishment and reconstruction,—the British architects will discuss the best means of combining business premises and domestic residences compatibly with modern requirements and *a fair remuneration*, those who, like myself, hear the private comments of travelled and sympathetic Frenchmen about the state of Central London, may yet be spared, often a blush, and many an impotent regret.

WILLIAM H. WHITE.†

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

AT the ordinary general meeting of this Institute, held on Monday evening last in Conduit-street, Mr. Charles Barry, president, in the chair, the following gentlemen were introduced to the President on their first attendance since their election as Fellows, viz.: Mr. R. Phené Spiers, Mr. T. H. Watson, and Mr. G. T. Hine.

The following gentlemen were nominated as Honorary Associates, viz.: Mr. P. H. Calderon, R.A.; Mr. Charles Manby, F.R.S.; Mr. W. H. Barry; Mr. Charles Neate, C.E.; Mr. J. Gascoigne Lynde, C.E.; and Mr. Alfred Morrison.

The donations to the library included the presentation, by Mr. Arthur Cates, of a few copies of a pamphlet on "Illicit Commissions," being a reprint of an article which lately appeared in the *Westminster Review*. It may be mentioned that a special committee of the Institute has this subject under consideration.

The thanks of the Institute were tendered to the several donors.

Mr. Eastlake announced that an interesting series of sketches had been received from Mr. Josiah Conder, a recent Soane medallist of the Institute, and now professor of architecture at the Japanese College at Tokio.

Mr. H. H. Collins, of Old Broad-street, was balloted for and duly elected a Fellow.

Mr. W. H. White then read a paper "On Middle-class Houses in Paris and Central London," the substance of which we have given on previous page.

The President said that, under the new rule as to the conduct of the ordinary general meetings of the Institute, the discussion on the paper would not take place until the next meeting. Nothing could better demonstrate the wisdom of that rule than this the first paper coming under its operation, opening up as it did so many matters for consideration,—points which could not be usefully disposed of in discussion until opportunity had been afforded for reading and studying the paper. He was sure that the members would be glad of the fortnight they would have to consider some of the somewhat novel suggestions which Mr. White had brought forward. Of course, it would be very desirable for London architects, in considering the subject, to bear in mind the trammels under which they laboured, in the shape of the Building Act, for instance, and which stood in the way of the attainment of some of the delights, real or fancied, of Parisian houses. The way in which such changes as were proposed by Mr. White would affect, for good or evil, national family life, as we knew it and valued it in England, was one of the very large number of important questions which the paper opened up. It was to be hoped that the paper would be discussed in such a way as to fully reward its author for bringing the subject forward.

The thanks of the meeting having been accorded to the author by acclamation, it was announced that the next meeting would be held on Monday, December 3, when, after the discussion on Mr. White's paper, Mr. James Neale, F.S.A., Associate, will read a paper entitled "Architectural Notes on St. Alban's Abbey."

THE SOCIETY OF BRITISH ARTISTS.

THE winter exhibition of the Society, just opened, is the last they will hold in their present rooms in Suffolk-street, as they announce their intention of re-opening next spring in the galleries at No. 9, Conduit-street. The closing exhibition in the old rooms seems a good augury for the future, for the average merit of the collection certainly goes on improving, and we may hope that the Society of British Artists has got on an ascending path, and will continue to advance. The best items in the exhibition are among the landscapes; but there are figure-subjects very well worth attention. Only it occurs to us that while the style of the figure-subjects has emerged from that of commonplace, which certainly used to predominate almost exclusively, there is need of a caution against drifting into an opposite defect of sensationalism. The works of Mr. Caffieri, for example, "Croquet Party" (86), and "A Juggler in the time of Queen Elizabeth" (229), unquestionably clever as they are, display that sort of cleverness which the French would call "*chic*"; the qualities which characterise them are, indeed, suggested by some of the less admirable productions of contemporary French art. The personages in the "Croquet Party" are essentially vulgar, and are painted in a vulgar way; and though this is not the case with the other painting named, which contains some interesting and expressive figures, the style of execution is that which aims at success rather by dash and effectiveness of touch than by study and finish. Mr. Ashton's "Summer Holiday" (155), a bright and original thing, is open to the same objection of seeking effect by splashes of light laid on with a careless extravagance, as on the back of the girl stooping in the foreground, which has its effect, no doubt; but it is an effect not difficult to repeat when the trick of it is once caught. Then there is a very clever work, in many respects, "Her Royal Highness's Birthday" (179), by Miss B. Meyer, representing "Farmer George" and his Queen, and the little Royal Highness whose birthday it is walking through a throng of loyal subjects of the upper class. There is a great deal of clever

* An allusion to the services of the professional press in this particular question is in the following words:—"There is hardly an argument employed or a description given in my paper that may not be found somewhere in the architectural journals; and perhaps I may be permitted to record my indebtedness to the earlier volumes of the *Builder*."

† Read at the Royal Institute of British Architects, as elsewhere mentioned.

and painfully real character in this, but it is painted in an unnecessarily repelling style, totally devoid of shadow or softness, and is a disagreeable work to look at; whereas it might have retained all its real merit in conjunction with a more agreeable and artist-like style and handling.

Among other figure-pictures is a fine head by Mr. A. B. Donaldson, called "St. Barbara," a picture very rich in sentiment and colour; there is a landscape background with an evening sky, and the saint holds a peacock's feather, which tells powerfully in the colour-harmony of the whole. Mr. Poole's portrait of a lady (126) has character and power, and a fine broad style. Mr. Gadsby's "Girl in a Mob Cap" (122), is clever and striking, though again a little splashy in style; Mr. Gordon's figure of a girl in an orange-silk dress, "Writing" (50), has feeling and refinement, and Mr. Morgan's "Yes!" (79) is a pretty and finished little study of figures in landscape. Among other things in which figures form the main interest, Mr. Logsdale's "A Welsh Chimney Corner" (123) is a powerful and effective study, in which the apparent roughness of execution is not thoughtlessness; and "Mixing the Salad" (148), a scene in a French wine-shop, by Mr. G. Sainsbury, has humour and good colour. Mr. T. F. Goodall's "Spring-time" (304), where some children are playing in a garden amid the spotty foliage of spring, is a good study both of figures and landscape, or "gardenscape." "My Model's Opinion," by Miss Conolly, we may probably take to be a portrait of the artist and her model, an old woman who comes forward to examine her portrait on the canvas; the face of the painter is nearly turned from us, but the head is interesting in pose and treatment. Mr. E. C. Champion's "Study" (222), is a good piece of antique still-life, an Assyrian bas-relief forming the background to an assemblage of odds-and-ends, an antique jar, and flowers, &c. "The Student," by Mrs. F. Martin (320), a girl in mourning-dress, reading, is a pleasing work in sentiment and execution.

Among landscapes, those of Mr. Wyllie are, as usual, among the best; the scene on the beach at "Whitstable, Kent" (27), and "The Mouth of a River" (288), are both very good specimens of his style and feeling; and perhaps better than either is a delicate little sketch called "Moonrise" (112), where some figures come over the shoulder of a slope covered with long grass, and the moon is just faintly visible in a light that has hardly faded into twilight. Mr. Aumonier sends an interesting little "Study from Nature" (63). Among larger efforts may be mentioned Mr. F. W. Meyer's "Beddgelert" (127), a work which will bear looking into; the perspective of the hills is very fine, both in regard to drawing and aërial effect, and the colour shows originality of perception in this respect. Mr. T. F. Goodall's "Forest Pathway near Lyndhurst" (26), and Mr. A. B. Collier's "Trebarwith, North Cornwall" (36), are good and careful studies of local scenery, the latter noteworthy for the fine treatment of the cliffs, though the sea looks a little metallic. Mr. Wainewright's "Showery Weather" (119), though rather commonplace and mannered in the foreground, shows a very fine sky and distance. Mr. Donaldson's "Albanian Coast from Corfu" (137) will hardly do; the clouds are really too much like a built-up solid mass. Mr. A. F. Grace is weak and wanting in local colour in his large "Sussex Pastoral" (142), his smaller work, "A Sussex Pasture" (386), is much more successful, and, indeed, quite beyond the larger one in style and feeling. Of Mr. J. W. B. Knight's landscapes it is difficult to speak; they are remarkably clever and full of feeling; both coast scenes, and apparently from the same locality; in "Runswick Bay" (162) the landscape is remarkably fine and free in treatment, but the sea is peculiar, and becomes mannered in the very attempt to escape from mannerism; and in the "Cliff-top in the flying Shower" (371), though this again is a very original thing, the sea becomes positively unlike sea at all; it would be difficult to say what it was meant for. Such painting is the result of carrying to an extreme a principle of handling good in itself, where the effect is got by broad sweeps of the brush avoiding detail; but this cannot be carried too far without resulting in mere smearing. The "Fern Harvest" of Mr. Crafton (392), and Mr. H. Sampson's "No Man's Land" (418), are good landscapes, the former a little hard and metallic, but forcible in effect.

Mr. Wyke Bayliss exhibits a carefully-painted "Interior of the Church of Notre Dame, Chalons" (6), and an excellent water-colour drawing of the "Interior of Strasburg Cathedral" (706).

Among the large number of water-colours in the north and north-west rooms are many good things; we may particularise "Companions" (499), by Miss J. Moore, a drawing of a solitary enthusiast playing a violin; various drawings of Mr. Clint's, all in a broad poetic style; and Mr. Donaldson's "Bridge-street-row, Chester." The centre pedestals in these rooms are occupied by some clever sculptural sketches by Mr. Mullins, among which a little group in terra-cotta called "Sympathy" is very pretty.

A HOME FOR REFORMATION.

It is not often that the English people are left behind in an attempt to remedy what is universally felt to be a crying evil, but, strange to say, with regard to habitual drunkards no attempt has hitherto been made in this country to reclaim and cure them, although in America the properly-managed institutions for this purpose have met with considerable success. The vice of drunkenness is so widely spread, unhappily, in this country that it seems hardly necessary to give details. The statements made by every gaol chaplain, and by every police magistrate, are appalling. It is commonly said that 80 per cent. of persons committed to prison are committed directly or indirectly through drunkenness, and the Ordinary of Newgate, at a meeting at the Mansion House on the 29th of October last, stated that from his experience he should consider 90 per cent. to be nearer the mark; and the attention of the public is especially directed to the fearful increase of intemperance amongst women, of whom, during the year ending Michaelmas, 1876, 5,588 were committed for drunkenness to Westminster prison alone, being an increase of 708 in the year, and an increase of 3,074 in the last six years. They were of all ages, ranging from sixteen and upwards; many had been previously committed,—some forty, fifty, and even one hundred times, for short sentences of three to fourteen days or one month. These short sentences and punishment appear utterly to fail in effecting any reformation whatever, and show the great need for a sanatorium or reformatory especially adapted for this class, one which has hitherto been most difficult to deal with, as no existing institution can give such cases the special treatment and length of time absolutely necessary to effect any permanent cure. Many of these women have entreated to be placed in some asylum where they might be guarded from themselves, feeling hopeless of the future without some kindly help; and there were cases which required to be treated to a certain extent as insane or suffering from disease. It is hardly possible to estimate the evil being done to society at large, or the misery caused to the families of these unfortunate beings by their returning to their homes. Women who drink lose the power to control and cure themselves far more than men, and greatly need external aid to reform; but, as things now exist, hundreds who might with care and restraint become all that is good are simply drifting away, falling lower and lower, because for them there is no effectual help, and England has hitherto not cared to make one single effort to provide any sound means to reclaim this most miserable of all classes. The British Medical Association have lately declared, with the authority justly attending such a body, that habitual drunkenness is, in many cases, a disease which can be cured, but only by a forced abstention from intoxicating liquors.

Well, growing out of these facts, a committee has been formed for the purpose of establishing an Industrial Home on the principle that sufficient time should be given to enable the nerves to recover a healthy tone, as there would then be every hope, with the aid of religious and moral influence and constant medical treatment, that many of these unhappy beings, whose lives are now a misery to themselves and others, would be restored to a higher state of existence and become useful members of society. It is intended to make the institution self-supporting, and, besides laundry-work, to introduce every variety of lucrative and interesting employment, and to classify the inmates as far as possible according to their capabilities and talents, as the great aim will be to develop and cultivate to the utmost the capacities and latent good which may be found even in the weakest and lowest. Length of stay will be regulated by medical advice; and it is the general opinion of the eminent doctors who have been consulted on this most important point, that the term of residence should be as protracted as possible, and it has been suggested as an inducement for their remaining for a lengthened period in the absence of compulsory legislation, that the inmates should receive a certain amount of wages, after a stay of stated duration, and that such wages be accumulated for them and given on their discharge as the committee should direct, but forfeited by those leaving before the time agreed upon, or without the sanction of the authorities. The committee appeal to the public for funds to commence this work, from which good results are believed to be obtainable; it is found after careful investigation that 4,000*l.* would start the work efficiently, of which 600*l.* have already been subscribed. Messrs. Ransom & Co., and the London Joint-Stock Bank will receive subscriptions; and Mr. Edmund E. Antrobus, treasurer, 14, Kensington Palace Gardens, would give any further particulars desired. We wish the effort success.

ANCIENT GREEK ART.

Mr. C. T. Newton, C.B., on Saturday evening last, at the College for Men and Women, Queen's-square, Bloomsbury, delivered his third lecture on "Greek Art." The two previous lectures have already been reported in the *Builder*.

Mr. Newton said that that evening they were not going to take an upward course, but pursue the stream of Hellenic civilisation downwards, tracing it step by step all the way, watching it widen and deepen as they advanced in their history of Greek art, and tracing it finally till it lost itself in that great gulf,—the Roman Empire. The period he had now to deal with was just about a century, between the years 540 and 460 B.C., or, if they took it in the language of ancient chronology, between the sixtieth and the eightieth Olympiad. In that period in their downward course, at every turn they would come upon most valuable landmarks with which they had long been familiar. He meant to say that the evidence on which Greek archæology was based improved and amplified itself as they went downwards in the history, and with every succeeding half-century they got better and surer evidence. For instance, in his last lecture he was obliged to exclude absolutely all evidence to be derived from Greek writing, coins, or indeed sculpture in the highest sense of the term, being obliged to content himself with pottery, gold ornaments, or descriptions of works of art referred to by Homer, for dates. But in the period between 540 and 460 B.C., they had a long sequence of coins with which they could fix the dates. They certainly had knowledge of the changes that Greek writing underwent in that century, for they had works of art inscribed with Greek characters which were of inestimable advantage, and they could approximately fix the exact age of these works of art. Instead of having only one literary authority, viz., that mysterious chronologer of old times, Homer, of whom no living man could say, with anything like certainty, when he lived, where he was born, or who he was, they had both poetry and prose literature to refer to. The century he (Mr. Newton) was dealing with was that within which Herodotus wrote his history, in which Simonides composed his work relating to those who fell at Thermopylæ, in which Pindar celebrated those glorious victories in song, in which Pæynichus told the sad tale of the taking of Miletus to an Athenian audience, and in which Æschylus still further redeemed the Greek tragedy.

Art represented the religious feelings of the Greek, and to know it they must study not only the art of the period, but also the literature. If they wanted to be cognisant of the religious faith of the people with which he was dealing they must refer to the pages of Herodotus and to the odes of Pindar, where they would find the very best commentary on the art of the period, and if they would pursue the comedy of the Attic tragedians it would take them to the art of the next period,—the age of Phidias. It was well that they should bear in mind the very stirring events this century contained, viz., the fall of the Persian Empire, the Ionian revolt, the defeat at Marathon, and of the invasion by Xerxes. These were great and stirring events, and so far as they could venture to interpret art they found that in that century great and stirring political events took place which were calculated to excite the passions of mankind towards noble objects. As Syracuse developed, the wealth of

the people increased; they built great temples, and votive offerings were frequently made, consequently art flourished by true encouragement for religious purposes. Then, again, there was the great institution which gathered together into one common focus this Hellenism, which was not limited to any particular district, and greatly intensified by victories. This Pan-Hellenic sentiment, the name by which it was known, found its only utterance at Olympia, which was the great gathering every four years, at which all of noble Hellenic blood met. Pausanias told them that the statues, which were dedicated to Olympia, were made of a very precious material, in bronze, which was made hollow in casting. By this important casting in bronze the great mechanical difficulty of the earlier artists was overcome as regarded the legs and feet of the statues. Then they came to a common influence generated in Greek art out of the religious sentiment and the institutions of the people themselves, an influence which led them to study what might be called the dramatic part of art,—a story with a violent action told by a group of figures, and this new influence was, to a certain extent, running counter to the old sacred idea of representing gods in human form as idols. There was no doubt that the first Greek idols must have been very barbarous in representation. When men had learned to put figures in violent action in bronze, they began to consider whether it was not possible to do something in marble, and by dint of trying they succeeded in finding out certain postures in which legs in marble carried the superincumbent weight of the marble trunk. There were two main sculptural decorations of a Doric temple,—sculpture in the pediments and in metopes above the capital. They were not what was called sculpture in the round, but in relief. In an Ionic temple, instead of the metopes there was the frieze, and it was in the period with which he was now dealing that these pedimental sculptures, metopes, and friezes were developed to the point in which Phidias found them. In two of the specimens before them, they noticed that they had arrived at the perception of movement. From the temple of Salamis, in Sicily, there were represented before them two metopes, one of which was very rude and clumsy, and depicted Hercules having in custody two robbers, and the other subject was Jupiter and Juno, the flowing lines of the drapery being well represented. With regard to the Harpy Tomb from Xanthos, which was in the British Museum, it was so placed there that no person could properly see its four sides for any practical purpose, because of the smallness of the room in which it was situated. When it was brought to this country, a line-of-battle ship was sent to fetch it, and all Europe felt an interest in it. At length the authorities of the Museum had succeeded in getting a new room for it, and when placed there he (Mr. Newton) hoped to be able to show it in a proper manner. One side represented two goddesses seated, but he was afraid the subject was not known, though no doubt it was funereal. The point he wanted to draw their attention to, however, was the character of the art, and he hoped in the course of next year to show them the difference of sculpture in these seated figures and in those figures brought from Branchidæ, when they would be able to recognise the advance in art. One of the problems of ancient Greek artists was to put a battle scene in a triangular space, the exact forms and limits being prescribed for him after the architect had done his work, the sculptor having to accommodate his conception of a battle to the particular space. This working out according to restrictions, was one of the most valuable things an artist could have to guide him, and it was the absence of that law that had destroyed modern sculpture. The centre figure of the Harpy Tomb was the Deity, who was supposed inevitable in a battle to help one army or the other. On both sides were represented two sets of warriors, and the whole was a great development of sculpture in the period with which they were dealing. As regarded the decoration of temples, he was sorry that the excavations at Olympia had not produced one single votive offering as yet, but it was quite possible that one would be found. With reference to the coins of Syracuse, chariot groups were represented commemorative of Olympian victories. He could not leave this period without saying that they had the names of artists who unquestionably flourished, and who were mentioned by contemporary authors, their names being inscribed on their works. One of those represented was the warrior of Marathon, the artist being Aristion, who, they were told, flourished at that time. Another artist, Kanachos, was said to have made the statue of Apollo, which was dedicated to the Temple at Branchidæ, being carried off thence and subsequently taken back by the Macedonians. Kalamis was said to have made for the city of Tanagra the statue of Mercury, and he was associated with the third artist, Kallon, by two great Roman writers, as exhibiting certain transitions of archaic style. Onatas was one of the persons who made the votive works in bronze at Olympia, and was also called upon to reproduce a very curious type of a goddess. In conclusion, Mr. Newton said that he had endeavoured in his illustrations, as far as possible, to cite examples in the British Museum in order that the students might study them. He wished he could refer them to some place where they could see casts of those that were not to be found there. In Paris, Berlin, Vienna, Munich, or even Bonn, they could at once turn from the lecture-room to a collection of casts, to which every archæologist and professor was in the habit of referring his audience. In all these cities, great and small, there was a collection of casts from the antique such as would enable a person who professed to teach to point out samples instead of having copies made, they being provided for him by the public. For the last thirty years France and Germany had thought that museums of casts were worthy objects of national expenditure, and accordingly they had provided these museums; and universities, with very small endowments, which could only be compared to Oxford and Cambridge as a mile to an inch, had provided, and continued to provide, these museums of casts. The only wonder was that the British nation had not a museum of this kind for educational purposes, and if they wished to profit by the British Museum they must insist upon it.

THE GLOUCESTER CO-OPERATIVE AND INDUSTRIAL SOCIETY'S NEW STORES.

THESE new stores, in Barton-street, Gloucester, the second built by the society, comprise, on the ground-floor, three shops No. 1 (facing Clarence-street), for hardware; No. 2 (facing Clarence-street), for boots and shoes; and No. 3 (facing Barton-street and Brunswick-road), for drapery, hosiery, &c.: hall and staircase at the back of the shop No. 2, with door to each shop therefrom, and back-yard, accessible from Brunswick-road by a covered passage, 6 ft. wide. At the east end of the passage there will be a trap, with pulley over, for the delivery of goods to the cellars, which extend under the whole of the building.

The first-floor provides a show-room for drapery goods (over shop No. 3), with office attached thereto; show-room for hardware (over shops Nos. 1 and 2), with assistants' room and staircase at the back. Provision is made for hoisting goods to this floor.

The second, or top, floor forms one large room, 62 ft. by 30 ft., by 21 ft. high, available for meetings of the society, lectures, reading-room, &c. It is lighted by five large three-light Gothic windows, will be warmed by two open fireplaces, lighted at night by gas-brackets and star-light pendants, and ventilated by Hill & Hey's patent syphon ventilators.

The building is Gothic in style. The Barton-street elevation consists of three bays, divided by buttresses, and finished with gables, the whole divided horizontally by double moulded strings, with inlaid geometric ornament of grey Pennant stone. The angle between Barton-street and Brunswick-road has at its base the entrance to the drapery department, consisting of mahogany double doors, the upper panels glazed with plate glass, flanked by grey Pennant columns, and surmounted by a richly-moulded arch, with tympanum carved with devices suggestive of the principles of the society. Over the doorway, on the first-floor, is a window. Above this (on the second-floor level) is a panel, having on it the name of the society, in large letters, and above this, forming a conspicuous object, visible from Clarence-street, Eastgate-street, and Westgate-street, as far down as the County Bank, is a high-pitched gable, having in the centre of it an illuminated clock, with dial 6 ft. diameter. The shields at the base of the gable are carved with devices emblematical of the different trades engaged in by the society. The Brunswick-road elevation is similar in treatment to the Barton-street elevation, with the exception that in this front there is only one bay.

The building is constructed of Painswick stone, with Box stone dressings, and Hampton common plinths, copings, &c., and roofed with red Broseley tiles. The shop-windows have mahogany frames, glazed with British plate glass.

The building has been erected by Mr. Albert Estcourt, of Gloucester, from the designs of Messrs. Medland & Son, architects, of Gloucester.

At the opening, which took place recently, a history of the Gloucester Co-operative Society was read by Mr. G. Sargent. We learn from this that the most important year in the history of the society was 1875. The rules were revised this year, and into the amended rules many benefical improvements were introduced. The new rules give the committee power to deal in land, and subject to the conditions prescribed in the rules of the building department, to erect houses for the members when the necessity for employing surplus capital shall again arise. This year the sales were 50,923*l.*; profits, 4,462*l.*; the number of members, 1,886; and the average dividend, 1s. 10½d. In 1876 some most important steps were taken in furthering the society's progress. The Corse Society was transferred to the Gloucester Society; another branch store was opened at Sudbrook, which has proved a great success; and the plans for the erection of the new stores were approved, and tenders advertised for. At the close of this year we find the receipts to have reached 51,991*l.* The profits were 4,114*l.*, giving an average dividend of 1s. 7d. in the pound. Of the year 1877 a portion has elapsed, and nothing of importance has taken place to call forth any special remark, with the exception of the completion of the "Co-operative Palace," as one of the papers of a neighbouring town chose to style it. The cash receipts from the end of the year 1876 to June 25th, 1877, were 26,798*l.*,—an increase of 798*l.* over the same proportion of time the previous year; members' share capital now stands in the society's ledger at 18,854*l.* The profits realised are 1,934*l.*, which give an average dividend of 1s. 7d. in the pound. The number of members stands at 2,019. The total cash taken during the society's existence has been 441,624*l.*, and the profits made in the same time 32,129*l.* The whole of the buildings are depreciated at the rate of 2 per cent. per annum, and the fixed and working stock at the rate of 10 per cent. per annum. There is a reserve fund of 1,037*l.*, and the whole of the buildings and stock are covered by insurance in various offices to the amount of 11,100*l.*

ELSDON CHURCH RESTORATION, NORTHUMBERLAND.

SIR,—As an old resident in the parish of Elsdon, I read with much pleasure your interesting sketch of the venerable old church. You will, therefore, excuse me, if I point out what seem to me one or two slight errors into which your otherwise accurate correspondent has fallen.

Your description of the parish as "a tract of hills still covered with heather and gorse" is altogether too sweeping. The village of Otterburn (not Otterbourne) is situated in the centre of the parish, and is a perfect picture of rural beauty; as says the old ballad,—

> "Otterburn's a bonny burn,
> 'Tis pleasant there to be,"

and the valley of Redesdale is rich with fertile pastures and good trout streams.

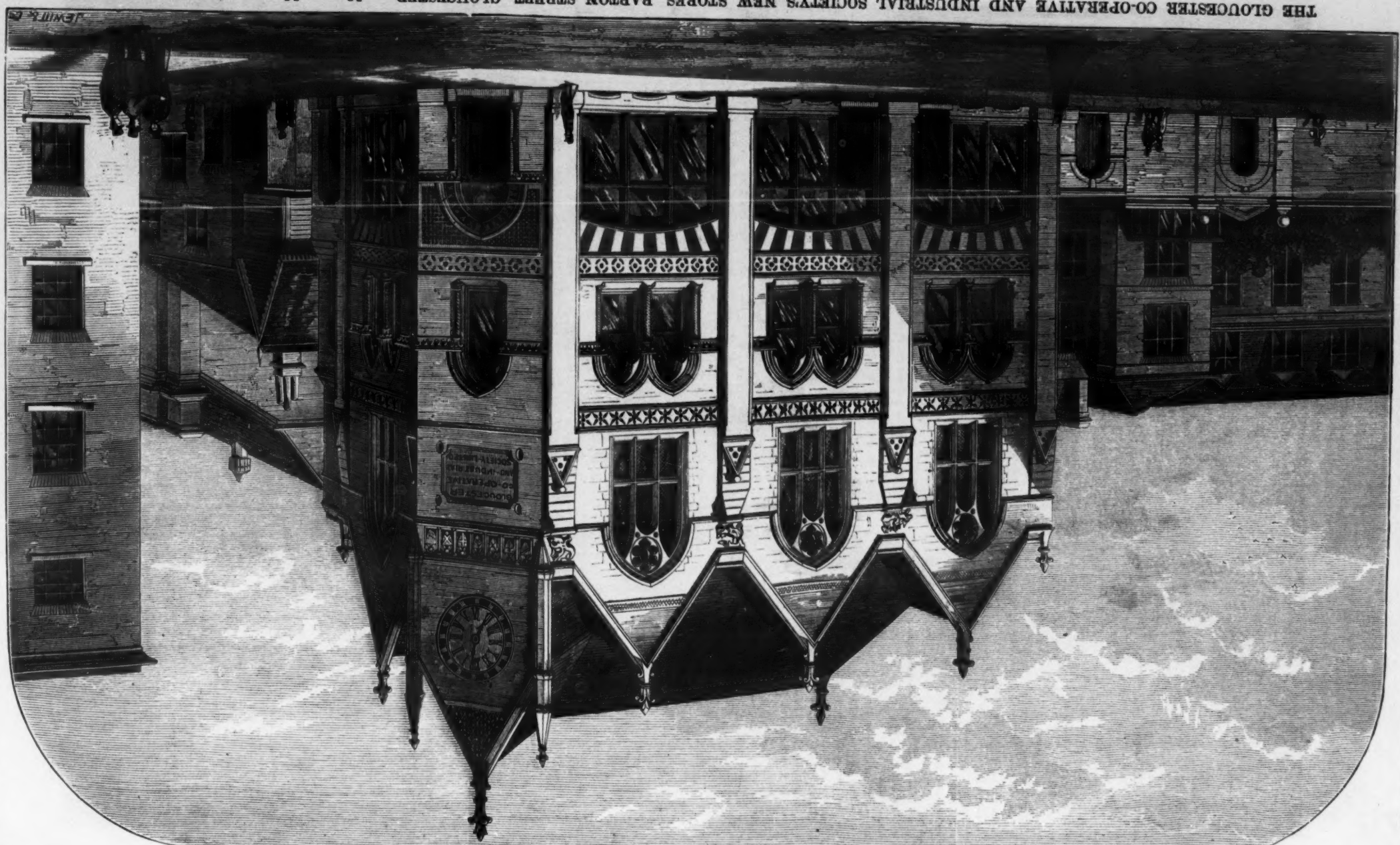
Again, the battle-field of Otterburn is only about five miles distant from the parish church, and the skeletons just exhumed, all of which were of a very large size, are almost certain to be those of the brave clansmen who fell in that sanguinary struggle.

It is to be hoped that the work of restoring the ancient fabric, so successfully begun, will be carried forward with the same energy, nor should the hand of the restorer be stayed until all the abominable modern rubbish, on the exterior of the building, be removed and replaced by work more in accordance with the original beauty of the church. JOHN S. BRODIE.

MASTERS' LIABILITY.

A SHORT time ago our carman was shifting some goods from a warehouse, and accidentally came in contact with a passer-by, pushing what he carried through a pane of glass. Are we responsible for the full value of the glass?
S. W. F.

THE GLOUCESTER CO-OPERATIVE AND INDUSTRIAL SOCIETY'S NEW STORES, BARTON STREET, GLOUCESTER.—Messrs. Medland & Son, Architects.



CHURCH (R. C.) OF ST. ALOYSIUS, OXFORD.—Messrs. Joseph A. Hansom & Son, Architects.

CHURCH OF ST. ALOYSIUS, OXFORD.

Of this church, built for the Jesuit Fathers from the designs of Messrs. Joseph A. Hansom & Son, we give an interior view in our present number. The exterior we published some time ago.* It is still, in a measure, not complete, and awaits the addition of side chapels and the like to render it so; but such additions will not affect the correctness of the view now given. One part only of importance may be said to do so, and this cannot be embodied in the present drawing, and that is, the permanent altar, tabernacle, and reredos,—the complement, so to speak, of the sanctuary,—which, though already in course of execution by Messrs. Farmer & Brindley and Messrs. Hardman, will not be completed for several weeks, and will be an elaborate and costly work. However, to describe the interior of the edifice as we see it is to say that its chief characteristic is, as it were, a simple nave, of somewhat bold proportions, 120 ft. long, 30 ft. wide, and 55 ft. high to apex of the ceiling; the sanctuary end is semicircular.

Although there are no aisles, as popularly understood, something of the same effect is gained by the disposition of piers and arches on each side, the piers being based on a square of 3 ft., broken above the pedestal into nook and shafts as in transition examples of Norman to Early English, and a face-shaft running up to the springing of the roof; the piers are 10 ft. high, and the arches springing from them rise to the height of 17 ft. 6 in. from the floor, in a broad flat soffit of 2 ft. 6 in., and archivolts on the face 1 ft. 3 in. wide.

The fenestration is simple, two lights over each archway of trefoil-headed lancets 15 ft. long and 2 ft. 6 in. wide, in all seventeen bays on the sides and circular ends; the chief window, at the entrance end (a rose-window), came into the exterior view.

The ceiling is formed of the roof framing, that is of circular main ribs moulded and shown one over each pier springing from the before-named face-shaft, with intermediate smaller ribs following the same curve transversely, and longitudinal ones dividing each bay into sixteen panels, and forming what is known as the pointed wagon-headed roof. It may be observed that already there are two chapels built, one on each side of the sanctuary, and capacious sacristies, and two side-chapels abutting on and opening into the nave on the right-hand side in our view, but they do not come into prominence, as a small alley running behind the pillars separates them from the nave. There is an organ-gallery at the entrance end of the church. Sitting accommodation in the nave may be for about 400 persons, but there is ample space to contain more than double the number in the alleys, arms of the cross, gallery, side chapels, &c. The contractor was Mr. Charles Claridge, of Banbury; the clerk of works, Mr. James Firth. The gas standards and branches were from Messrs. Hardman & Co.; the warming apparatus by Messrs. Haden & Son. The total outlay on the building as above has been over 10,000l. We will give plan on another occasion.

LIVERPOOL: ITS BODY AND MIND.†

I COME now to Liverpool's intellectual and moral institutions, in which she is not very ill-furnished or glaringly deficient.

She has colleges and schools and learned societies, natural history museums and archæological museums, and music halls, as well as that remarkable invention of the nineteenth century the free library, the characteristic advantage of which is that it multiplies in a geometrical ratio the result of the invention of printing, by bringing as many readers to each copy of a work as the said invention could produce copies of it; an institution which, when as in the Liverpool one, it is not merely a working-men's library, but provides the highest order of works, must, by increasing the facilities of private study, raise the standard of education among the classes which are unable to obtain the advantages of a university. Liverpool is also well supplied with moral and religious institutions. Its churches are numerous, while her charitable institutions are sufficiently so to show that there is some solidity in her religion. But it is equally true that till this present year the two chief arts of form,—the divine sisters Painting and Sculpture,—had no abiding home provided for them in this wealthy community. During the last few years they have been only temporary lodgers, though under the patronage of the corporation, at the Free Public Library, in rooms that could be ill spared for their accommodation. The late movement, therefore, creative of an art gallery, which no doubt has a filial relation to the act which has embalmed the name of William Brown,—in other words, is an offspring of his bright example,—has not rendered Liverpool conspicuous among the cities of the empire for the extent of her fine-art endowments, nor crowned her with an unusual ornament; but has rescued her from an anomalous position. It has restored a balance to her intellectual and educational development, which was in an eccentric and unsymmetrical condition. It has caused the wonder for ever to cease of all reflecting men, that England's commercial metropolis should be behind all other places of its size and importance in the civilised world in provision for that which is essential to the equilibrium of the mind and perfection of the human character. This art is, more especially among town-imprisoned men, from whom God's daughter, Nature, as Young calls her, her prototype, is shut out. The appetite for beauty is a natural and healthy one, and the germ of it lies in the lowest of our race. Beauty is a higher necessity of humanity, but it is as real a necessity as that of bread, by which man does not live alone. Take off his shoulders the weight of material necessity,—that of providing himself with meat and drink, clothing and shelter,—and his higher bent, his tendency to ascend, resumes its sway. His natural taste, hitherto dormant, asserts its legitimate rights, and he immediately seeks food for his mind and affections,—the ambrosia that does not perish with the perishable body,—and wraps himself in the golden visions of poetry and painting, sculpture and music, and enshrines himself and them in the splendours of architecture. The mind of man is two-fold, comprising intellect and emotion, and it is his nature to go up with respect to both, and not only elevate and ennoble the intellect, but purify the affections and passions. And high as man has already ascended in Greece and Italy, it may be doubted if he has yet reached his highest possible point of culture and sublimity. We know not if all his sympathies have been called forth, or whether there be not passions in the soul that have remained dormant for want of the corresponding objects to excite them.

The establishment of the Walker Art Gallery and an annual exhibition is a great point gained, and Liverpool's cerebral development is now very different to what it was seven years ago. But it is by no means yet in the condition it ought to be in for so large and important a place, which if we include Birkenhead with its appendages, which is to Liverpool what Southwark is to London, is one of the largest communities in the world. We have as yet but an annual exhibition; which is by no means sufficient for the art-culture of the people. Nothing but a permanent exhibition of pictures, including the highest class of works, will bring up the public taste to a proper standard from its present low condition. We have now in the permanent gallery building, it should be remembered, the shell only of such an institution, without the kernel; we have the casket, but not the jewels, which are for the most part yet to be obtained, and should be very speedily obtained, and which will require for their purchase not thirty or forty thousand pounds merely, but some hundreds of thousands. And when this is achieved it will be found that something else is wanting to our keeping pace with the general march of the world around us. Nay, we want many things at present: we want a museum of geology; we want a zoological garden, for the furnishing of which Liverpool's commercial relations with foreign countries offer the greatest facilities, and which is just as needful as a botanic garden; stuffed animals being insufficient for the naturalist, who wants living animals as well as living plants. We want, I doubt not, a score of instructing or refining institutions that I am unable to name. Liverpool is aspiring to be a bishopric; I do not see why it should not aspire also to such scholastic functions as to be independent of London, Manchester, or any other place in the matter of education. I do not see why Liverpool should not contain within itself the means of a complete education, and the most enlarged mental cultivation, including extended and systematic courses of instruction for professional pursuits, and become an educational centre for the North and West of England. It is no credit to Liverpool that it is without classes for the higher scientific teaching, such as to qualify students for the degrees in science of the London University, which cannot at present be obtained, though it is a want that has been long felt. Let me suggest for Liverpool, in addition to these, a college of moral and metaphysical science, to establish the just foundation of morality on conscience and the soul; or to show its scientific bearing. Liverpool should, I think, also include a mathematical college, and a college of civil and naval architecture and engineering, as well as a college for the study of geology. For these, and for book-publishing, its remarkable centrality of situation in the United Kingdom, as well as equi-distance between the three capitals, London, Edinburgh, and Dublin, mark it out. This is the more to be desired, for the probable beneficial influence its intellectual elevation would have upon numerous towns around it, among which Liverpool is as a city set upon a hill, whose light cannot be hid, and, as I feel certain, upon all North Wales, which depends a good deal upon Liverpool for its mental culture. Though not in North Wales, Liverpool is virtually its metropolis, and so called, though I am sorry to add, with the adjective "drunken" sometimes prefixed. The Welsh are a devout people, well provided with places of worship, and with Sunday schools for the religious training of the young; but in secular education they are less advanced than English, Scotch, or Irish, a fact that might form a profitable theme for the Social Science Association, and by no means a trite one; for while works on topography, history, and antiquities of Wales are plentiful, those inquiring into the condition of education are scarce.

How unawakened their sympathies for art may be judged by their treatment of the recent Wrexham Exhibition, which, though it consisted of pictures of the first class of unquestioned merit, and from the finest collections in England, ancient and modern, nobody went to see. Sufficient cause for this, I think, cannot be found in the geographical situation of Wales, and there can be no barrier to knowledge in the mountains, nor in the Celtic intellect. It must be sought alone in the maintenance of the Welsh language, which it is to be wished will soon sleep with its Greek and Latin fathers or mothers. The mental condition of Wales, however, only concerns Liverpool so far as it supplies a motive for trimming her intellectual lamp. In aiding her in doing so, and supplying the various wants I have referred to, to say nothing of the improving of the sanitary condition of the town, and as far as possible wiping off the foul stain of being among the unhealthiest towns in the kingdom, which does not come under this branch of my paper, what capital chances there are for our millionaires to cover themselves with glory, and procure passports to immortality of praise! As I remarked at the time of Sir William Brown's gift to the town, when, by the way, I mentioned the want of a Permanent Gallery of Art, there is still room for heroes of this class. We have within or around St. George's Hall, which it seems is to be our future Westminster Abbey, an abundance of niches and pedestals for statues, which need not be all rated alike, but might be put up at different prices, say from ten to a hundred thousand pounds, according to their position. I made these remarks, concluding with an invitation to gentlemen to "step in" to this ideal auction, some nineteen years ago,* with a view of, in some humble degree, accelerating the good movement, and I repeat them now with the same view, though with a profound sentiment of wonder that it should be necessary to do so, and that the vast number of Liverpool men, to whom the gift of fifty or sixty thousand pounds would involve no sacrifice of enjoyment, would not make haste to aid the work; and that for the high honour of supplying a known public want, as well as the blessedness, which attaches more to giving than receiving, there is not a fierce competition. I feel as much pleasure as most people at such presents being made to the town as the Walker Art Gallery, which, as the act is contagious, benefits not our town merely but the whole country and the world; but I consider the highest praise that can be justly bestowed on the donor is that he has made a proper use of his money; that he is making his riches, what Solomon says riches are to the wise, a crown of glory, and is drawing the highest pleasure and profit from them that they are capable of yielding to their possessor, who otherwise can receive

* See vol. xxxiv., p. 881.

† By Mr. Samuel Huggins.—Read at Liverpool Architectural Society, November 14th. See p. 1,122, *ante*.

* See *Builder*, vol. xv., pp. 301-302.

no pleasure from them at all, except the anticipation of dying rich,—

"Guilt's blunder and the loudest laugh of hell."

He who hoards superfluous wealth denies himself the luxury and blessedness of doing good. He is like the man in the "Pilgrim's Progress," with a dust-rake in his hand, who will look no way but downwards, though there stands one over his head proffering him a celestial crown for his rake. He buries in the earth the talent—the wand of power — the talisman, of the magic potency of which, to slay the monsters poverty and disease, ignorance and vice, fraud, tyranny, &c., that prowl about the earth and prey upon our happiness and peace, the Club of Hercules, the caduceus of Mercury, the sword of Perseus, are but faint types and shadows. He foregoes the honour of connecting his name for all time with some knowledge-spreading, happiness disseminating institution, which is an honour to the human race, and enshrined perchance in an edifice which is an ornament or acquisition to the earth. I can conceive no act of self-denial much greater than this. Those deeds recorded of Zeno, Epictetus, Cato, Marcus Aurelius, and others of the Greek and Roman stoics, must pale before it. Most men, it is thought, are ambitious; but I think we have strong proof that the rich man, as a rule, has no ambition, or that avarice eats it up. While hoarding his money he is, as the case may be, a wealthy merchant, a rich banker, a large manufacturer; but let him apply his wealth after the manner suggested, and he becomes a world-renowned founder of some moral or intellectual institution, and a public benefactor of his species; besides having the satisfaction of knowing that so much of his money is for ever secured—that he has so much treasure laid up in heaven, where neither moth nor rust can corrupt, nor thieves break through and steal. Men who have so connected their names with some great institution need not seek knighthood or elevation to the peerage. They have decorated and ennobled themselves, more effectually than royal favour or patent could have done it for them; a fact the nobility by royal patent seems to be growing conscious of, for many of them are coming out and making themselves useful as writers and lecturers, and we hear now sometimes of noble preachers of the gospel. It is high time for rich men and all men to feel that neither wealth nor rank is any distinction in itself. The man of true taste, who felt as he ought to feel, as humanity properly disciplined is capable of feeling, would rather have his name connected with some religious or philanthropic enterprise, or with some institution whose object was the enlarging the boundaries of knowledge, fanning the flame of love and charity, or raising the standard of virtue among mankind, than being Emperor of Germany or Russia. Which reminds me how much more than kings or queens, even kings and queens might render themselves, and shine as bright peculiar stars among the sovereigns of the earth, by getting upon this course to fame—how a monarch, even in these republican times, might, by a philanthropic career, disarm all opposition of faction to his authority. "This," as Lord Byron says, in reference to a certain benevolent act of George IV.,—

> "This is to be a king, this is to raise
> Envy into unutterable praise,
> And by the heart, not hands, enslaving us."

This is a digression, however, too long a one for the unity of this paper; and its subject—patronage—I have, perhaps, laid too much stress upon, at least as far as art is concerned, which, requiring rarer faculties for its successful prosecution, must be less indebted than science to wealth and extraneous aid; and, while exhorting the professional men at least of this town duly to avail themselves of the privileges offered them in the new Art Gallery, which they ought to feel an interest in kindred to that felt by the painter and sculptor, let me warn them against trusting in patronage, however princely, for the success of art. It was only one of the minor causes from which the seemingly miraculous success of Greek art sprang, and which, had it stood alone, would have been powerless, though exercised by a Pericles. Art will not come, says Emerson, at the call of a legislature, nor repeat in England her history in Greece. She must spring up between the feet of earnest men, who love her and follow her for her own sake, and to whom she is, like virtue, her own reward,—a passage which suggests the chief cause of her success in Greece, the native country of the Muses and the Graces; where, from an arbitrary hieroglyphic, from a tool of despotism, or a ponderous monument of eternal sleep on the banks of the Nile and Ganges, art emerged into life, motion, and liberty—I mean enthusiasm, which is the very soul of poetry, the Coryphæ of the Fine Arts, there being such an indissoluble union subsisting between them, that the same word—*vates*—in the learned languages was indifferently applied to a poet or a prophet. This was the chief cause of the success of the Greek school. It is one that, of course, need not be wanting in ours; and a careful study of the history of Greece will, I think, show us that some of the chief of the other causes which conspired along with it to elevate Greek art, we also possess.

A prominent source of excellence in Greece was the sedulous cultivation of grace and elegance of person, which is the image and reflection of grandeur and beauty of the soul, among the people, for the benefit of art, which fully availed itself of the bright boon. The most celebrated beauties were the models of the artists, and were immortalised by them on canvas and in marble. Thaïs, the mistress of Alexander the Great, and afterwards queen of the first Ptolemy of Egypt, and whose charms were celebrated by Menander the poet, served this purpose. Of the celebrated Phryne, a statue was carved by Praxiteles, for the Temple of Apollo, at Delphi; and the same beautiful model is said to have been the original of the Venus Anadyomene of Apelles. Another cause of success in Greek art was political liberty, a blessing which bestows on man elevation and dignity of soul, and an enthusiasm which enkindles the imagination; which must be favourable to a soul-born art, and must be wanting in the willing subjects of unlimited monarchies or despotisms. Without liberty, I believe, art could nowhere flourish. We shall never hear, for instance, of a Muscovite Flaxman or Reynolds, till many years after we have heard of a Russian "Magna Charta," "Bill of Rights," &c. The situation of their country on the shores of the Mediterranean, with its proximity to the East, and its fine climate—their national character and manners—the nature of their religion, and ideas of the Deity, which with the belief in their own divine origin, led them to realise the conceptions of ideal beauty which the poets had attributed to the divinities, were also so many advantageous circumstances in favour of the Greeks with respect to the arts in question.

Now, in the first of these secondary causes of Greek excellence, beauty of person, though behind the Greeks, we are not remarkably deficient as a nation or group of nations; and the second, political freedom, we possess in as great a degree, or greater, than they did. As to the mental quality of the Greek race, which was a mixture of the Pelasgi with the Hellene, or Dorians, to which is sometimes attributed all that is great in the art and literature of Greece, it is probably not so much superior to our own as is usually supposed. I certainly do not agree with Mr. Fergusson, who is ever lamenting some artistic inaptitude for art inherent, as he supposes, in the Teutonic race. At least I conceive the countrymen of Shakspeare and Spencer, of Milton, the architect of Pandemonium; of Shelley, of Wordsworth, of Sir Walter Scott, need not despair of success in art on ethnological grounds.

But whatever circumstances favourable to art may be operating for us, let us not forget the main one, the spiritual one, which, in the absence of a Muse of painting, sculpture, and architecture from the Greek mythology, we might invoke as a substitute, viz., enthusiasm or love, which is as essential in art as the theological virtue so-called, or charity is in religion. Even the Greeks would have failed without it. Their art fell not from heaven; it was born and had its infancy on earth; but, as Fuseli observes, the Graces rocked the cradle, and Love taught her to speak.

With painting and sculpture architects are more deeply concerned than architects generally suppose, and should be better acquainted than at present, as a body, they are; and nothing would go further towards the redemption of architecture than increased study of the sister arts by her professional votaries. Study and practice of these arts by the architects of Italy was a cause of their eminent success in architecture, and many an Italian design, such as the Doge's Palace at Venice, for example, could not have been produced by a mere architect. The same may be said of the Saracenic architects in Spain, Egypt, and India. They were more than architects, in the common acceptation of the term, though they did not, and dare not, carve the human or animal form. The sculptor's art was devoted to death by the Moslem creed; but it was rescued by Moslem genius, and appeared in their arabesques as a mural decoration of surpassing beauty. The architects of the ancient Egyptian temples were also more than architects in our sense of the word; so were the ancient Hindoo architects, as shown in the celebrated cave temples of Ellora, which are decked with a redundance of sculptural ornament, including representations of men and animals, gods and goddesses of the Hindoo Pantheon, in such perfect unison with columns and entablatures that sculpture and architecture seem one undivided art, as if their practitioners never dreamt of them as separate arts, and as if Nature herself had joined them.

These observations remind me of a remarkable difference to which attention has of late been directed, between work of the present day and that of the Mediævalists and some ancients, in respect of the part played therein by the actual workman. No doubt the general impression is in favour of the old manner,—that the workman should have a mental as well as a manual part in architecture,—that *his* mind should beam from it as well as the architect's—a very good idea in itself, and very suggestive. It appears to me, nevertheless, that it is essential to a work of art that the whole conception, design, and composition, including the subjects and treatment of sculptural decoration, should be the work of one mind—that of the architect, who should have sufficient knowledge of sculpture to direct its execution. This need not, however, prevent the pouring out of the mind and heart of any workman who may have mind and heart to pour out. These, which should not be suppressed in the workman, are essential to the architect. *With* them there will be no limits to the success of a Liverpool School of Painting and Sculpture, with which should be closely connected a Liverpool School of Architecture.

In conclusion, I may be excused for betraying even special interest in the success of the School of Painting and Sculpture, when I inform you that I was thrown by circumstances, very early in life, into connexion with the scene of its birth, or at least infancy. I refer to the neighbourhood of the bottom of Brownlow-hill and Mount Pleasant, where, in a well-known establishment at this time, I was first made aware, by a work of Peter Nicholson's, of there being "five orders of columns in architecture," and commenced my study of them. At a sculptor's place, a few doors above this, that of Samuel and Thomas Francey, John Gibson, R.A., the sculptor, was a pupil, placed there, if my information be correct, by Roscoe, the historian of the Medici; and from it came afterwards Edwin Lyon and William Spence, two of the first members of the Liverpool Academy, and the son of the latter, B. E. Spence, J. A. P. Macbride, and one or two other sculptors of promise who died young. Close by this, in Benson-street, lived Alexander Mosses, a talented portrait painter, another academician, of whom W. Daniels, I believe, a master in chiaroscuro, was pupil; and not far from it Samuel Williamson, the landscape painter; while within a stone's-throw, in Mount Pleasant, was the studio of John Foster, who, though architect, was president of the Academy, and who travelled with Mr. Cockerell, and was concerned with him in the introduction of Greek architecture into England. These, with W. G. Herdman, W. J. Bishop, R. Ansdell, R.A., and one or two others, may be considered the precursors of painting and sculpture in Liverpool.

ART AND ARCHITECTURE IN THE PAST AND PRESENT.

SIR,—With your permission, I should like to make a few remarks on the article with the above title lately published in the *Builder*.

After asserting that, as a nation, we spend money without stint on the army and navy, the writer asks if we can say the same of our galleries and museums?

Perhaps I shall surprise the majority of your readers if I say that I think it would be rather an advantage than otherwise if it were necessary to answer the question in the negative. There are some persons—and I agree with them—who think it is time that we asked ourselves whether the young people who are intended to become artists will ever possess any power of originality so long as the present vicious system of copying

ancient examples is continued; whether we shall ever establish — what ought to be the object of all national art-teaching—a real living art, ever progressing and improving, so long as we constantly and systematically look back at what has been done before, and flatter ourselves that we have achieved something meritorious if we can only say that our picture is a tolerably exact reproduction of what Titian, or Leonardo, or Raffaelle would have done in their days; or our latest church just what would have been built in the thirteenth or other past century.

Certain it is that the great masters depended almost entirely upon themselves, on the cultivation of their innate powers, for the simple reason that they had no museums or galleries to go to; and it is more than probable that, if they had possessed them, *we* should have had no *chefs-d'œuvre* to admire. They looked to themselves and nature only; or if they did look at what had been done before, it was only to be careful not to fall behind it in merit, but to keep up the general advance towards perfection. In ancient architecture there is ample proof even that there was not the slightest hesitation at destroying older work to make room for new and,—as it was considered, and generally was,—improved work. In pulling down a Mediæval church, the beautiful details of an earlier building are often found used as mere walling material, which had evidently been thrown aside, almost with contempt, as unworthy of the existing state of vigorous architectural progress.

The most elaborate work was sacrificed sometimes to keep up the vital spirit in design.

How different it is in these days! Our young artists are educated to look upon the glorious works of ancient art in our galleries and museums as so many *ultima thules*, as goals at which all further energy and progress may cease, and thus they grow up in a state of slavish servitude to the past; so, also, is it with our young architects. It is all copy,—copy. I think I may fairly claim to be second to none in veneration of the many glorious works of ancient art that have happily been preserved to our times, but, at the same time, I consider that there is a very apparent evil in the uncontrolled study of it to the exclusion of the practice of original design.

I fear I may have stated my views on the subject very imperfectly, but if there be any truth in them, the remedy would probably be found in a modification of the system of art-training at the Academy, at South Kensington, and in our architect's offices. Roughly stated, the time of students in art should be divided into three parts:—1, learning to draw; 2, copying from the best examples, and attending lectures; and, 3, original designing; and the whole organisation should be so arranged that the first lead up systematically to the last, and the highest (or perhaps the only) prizes should be reserved for the successful student in this last period. Some such course as this would, I think, secure originality, progress, and, in the end, a national school of art, producing vital historical work, for which our national history would furnish glorious and inexhaustible events.

In comparing such towns as Manchester and Birmingham with ancient Florence and Venice, the writer of the article is scarcely just, I think. The merchant princes,—as they are sometimes called,—are certainly most liberal patrons of art, and in the neighbourhood of Manchester are some of the finest collections of modern works, upon the acquisition of which handsome fortunes have been expended. The world is occasionally astonished at these, when circumstances compel their dispersion, and, to my certain knowledge, they are not in the main collected with a view to profit, but from a real love of art.

In conclusion, the writer alludes, rather regretfully, I think, to mechanism as the genius of our age. But need we regret this? A glance at the works of Viollet-le-Duc shows that the artists of the Middle Ages were first-rate mechanics, and we may therefore conclude that they would certainly if now living have availed themselves of our modern inventions. We have merely carried to perfection what they began, and I think it is a fact that mechanical appliances need not, of necessity, clash with architecture as a fine art.

H. T.

...RE MESSRS. GREEN'S DOCK, BLACKWALL.

SIR,—In reference to your description of this unique dock, permit me to add that the whole of the granite used in its construction is from the Kennay Quarries, Aberdeen.

ALEX. NICHOLSON.

JOHN HENNING, SCULPTOR.

THE public works of this artist were the frieze of the gateway leading to Hyde Park, and the front of the Athenæum Club House; and besides the models of the Elgin marbles from the Parthenon, he restored the exquisite Greek compositions of the Phigalian marbles, taken from the frieze of Apollo Epicurus, illustrating the combats of "Greeks and Amazons," "Centaurs and Lapithæ."

It appears from his evidence before the Parliamentary committee upon arts and manufactures in 1835, that the course he adopted was to make careful drawings of the mutilated marbles, and then after filling up the deficient or defective portions, to model them, and when satisfied of their effect, they were transferred to a slate slab in the opposite direction (intaglio), so that the slate became the matrix mould with great certainty and precision; it was, in fact, "die-sinking" by the artist's own hand. The series of the Elgin sculptures were begun in 1816 and finished in 1823.

With reference to the robbery to which all sculptors and artists are exposed, he states that "when the casts are issued any one who lays his hand on them may with little trouble take moulds in sulphur, wax, or plaster, and multiply them in any number." Now this is so obvious that any one possessing a collection of these "gems of art," has great need to be careful to keep them in his own hands even during the operation of properly framing them; hitherto they seem to have escaped the plagiary of plaster figure-makers; and therefore are confined to comparatively few hands.

Then upon the preservation of marble sculpture from decay. When exposed to atmospheric changes, he advises that they should be coated with wax, and describes an experiment he made with a piece of polished marble, upon which he made "a stripe of wax with hair pencil, then heated the marble until it had absorbed the wax. This he exposed on the top of his house for a whole winter, and in the spring the polish of the marble had all gone, except where the wax had been laid." He considers it should be allowed to penetrate to $\frac{1}{16}$ of an inch; and the effect, so far from being in any way objectionable, appeared only as being of the finest material.

Henning, like most men of talent, did not claim to be the inventor of the process, which, he said, might have been used by others before, but that it was unknown to himself.

JAS. THOMSON.

STRUCTURAL IMPROVEMENTS AT KEW GARDENS.

SOME improvements of an important character have just been completed at Kew Gardens, one of which is the re-arrangement of the heating department of the great Palm-house, which had for some time past been in a very unsatisfactory condition. It appears that the low level of the ground on which the building stands is almost flush with the bed of the river, and that during floods the heating boilers are frequently extinguished, and pumps have to be used. These defects have been accompanied by a difficulty in regulating the temperature, the consequence being that the plants have for some time past suffered. This has led to the First Commissioner directing that the machinery connected with the heating apparatus should be entirely reconstructed, which has just been carried out. Works have been effected which will prevent the water from having access to the stoke-holes. The boiler-rooms have likewise been remodelled, and the boilers renewed, together with the introduction of a new apparatus, whilst the mile and a half of water-pipes connected with the building have been re-arranged. The chief feature of the alterations are the new tubular boilers, which are the invention of Mr. C. Rivers, C.E., one of the Government surveyors, who, along with Messrs. Simpson & Co., have executed the works. Mr. Rivers has obtained a patent for his invention, which it is stated involves an entirely new and novel principle in boiler construction. It is stated that the new boilers act well, and Mr. Smith, the curator, is reported to have remarked that he shall be able to get as much work out of the four new boilers as he formerly got from the eleven old ones, in addition to which he will be enabled more equably to control the heat in every part of the building. A new herbarium has also been erected at the back of the house formerly occupied by the late King of Hanover. This building is intended to be devoted entirely to the storing of dried plants. It is several stories in height, with flying galleries round the walls.

LOCAL GOVERNMENT BOARD INQUIRIES.

Horsham.—Application having been made by the Horsham Local Board for sanction to borrow 12,000*l.* for the purchase and extension of the Horsham Waterworks, Major Tulloch, R.E., has held an inquiry on the subject at the Town-hall. Major Tulloch said he had received the detailed report on the scheme from Messrs. Gotto & Beesley, and he invited comments thereon. Mr. Hurst said that both the Local Board and the Waterworks Company were very anxious to bring this matter to a close, simply because the Board were anxious to extend the works, and lay down the mains in a certain part of the district where there was at present no water-supply except from common wells, in many of which the water was found to be very impure. The Waterworks Company did not feel inclined (and in fact had no means at their command), whilst matters were so uncertain, to extend the works and the mains. The purchase-money which the Board had agreed to give for the waterworks was about 7,300*l.* The present reservoir at the works held about 114,000 gallons, and the new one which was intended to be built would hold about 80,000 gallons.

Dorchester.—On the 13th inst., Lieut.-Col. Ponsonby Cox, R.E., held a public inquiry at the Town-hall, Dorchester, in reference to an application by the Town Council for permission to borrow 8,000*l.* for sewerage and water-supply,—3,850*l.* being the estimated cost of the proposed sewerage works, and 3,100*l.* that of an increased water-supply, including 1,950*l.* for an elevated reservoir, 350*l.* for an engine, and 318*l.* for buildings. The Borough Surveyor (Mr. Norman) explained that it was contemplated to provide drainage and water for the whole of the new district, which comprised the new barracks now in course of construction. It was intended to commence the drainage in the upper part of the borough,—from Bridport-road, and thence proceeding by way of Cornwall-terrace, Great Western-terrace, Weymouth-road, and as far as the parish boundary,—Maumbury Rings; also through Maumbury-road, South Walk-road, and the villa sites road, including Topp's Bridge-road, also Icen-way. In answer to questions by the Inspector, the Surveyor said he did not, according to the present scheme, propose to do anything with the sewage before it was sent into the Frome, which was proposed to be done where the present sewer emptied itself. The Inspector pointed out that this was contrary to law.

Ipswich.—The Corporation of Ipswich, as the Urban Sanitary Authority of the borough, having applied to the Local Government Board for their sanction to a loan from the Public Works Loan Commissioners of 44,500*l.* for the carrying out of the plans for the proposed intercepting sewer, with outfall into the Orwell at Pilots' Hard, an inquiry has been held before Mr. Robert Morgan, C.E. The estimate of the engineer (Mr. Bruff) for the work is 41,000*l.*, to which have to be added 3,500*l.* for compensations and contingent engineering and legal expenses. It is proposed to discharge the sewage soon after high water, so that the whole of it may go clear away before low water. The sewage of the town is 800,000 gallons per day.

NEW BRIDGES.

York.—At a special meeting of the York City Council it has been determined to construct a new bridge over the river Ouse, at a cost 38,363*l.* The site of the bridge will be from what is known as Skeldergate Ferry to St. George's Field, and will involve the clearing away of a large amount of property for approaches and in street improvements. The bridge will be so constructed as to open for the passage of vessels. Mr. Page, of London, is the engineer; and the work is to be executed under the superintendence of Mr. Styan, the city surveyor of York.

Widcombe.—Steps are being taken to erect a wooden bridge, at Widcombe, Bath, on the site of that which fell in June last. The proposed structure will, it is said, only be of a temporary character, and in course of time will give place to a substantial iron bridge capable of carrying carriage as well as foot traffic.

CLEOPATRA'S NEEDLE.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

THE opening meeting of the session in connexion with the British Archæological Association was held at its rooms, 32, Sackville-street, Piccadilly, on Wednesday, the 21st inst., when Dr. S. Birch, Keeper of the Egyptian and Oriental Antiquities, delivered a lecture on "The Obelisk known as Cleopatra's Needle." The chair was taken by Mr. Godwin, F.R.S., vice-president, and there was a large attendance.

After the formal business,

The Rev. Mr. Mayhew called attention to some glass vessels found near Troy, which he exhibited, stating that they were Moorish in shape, and believed to be of very great antiquity.

Mr. Godwin said that Mr. Morgan exhibited some drawings, including one showing the obelisk preparatory to being launched; Mr. W. Dixon showed a model of the obelisk; and Mr. Reddie some ancient casts illustrative of the obelisk. It was now his (the chairman's) privilege of requesting Dr. Birch to favour them with his observations upon the obelisk. The lecturer, as they all knew, had gained for himself a European reputation, and what they heard from him they knew to come from the best authority.

Dr. Birch, who was warmly received, said that it was with much pleasure he obeyed the summons, and trusted that as regarded the obelisk, it would soon be brought to this country. Before going into details of the obelisk from Alexandria, he thought it was desirable to give them some account of what obelisks were. To their eyes they appeared to be square columns, broader at the base than at the top. After all, an obelisk was only a repetition of the pyramid in another form, truncated at its top, at which was placed another pyramid of different proportions. Unfortunately, at the present moment, they were unable to decide from Egyptian monuments what was the symbolical notion of an obelisk. It was "texen," from the Egyptian verb "to hide" or "to conceal"; it also bore the word "Men," or "Amen," which was another appellation; but they were unable to connect the obelisk with the god "Amen," though it was used as a symbol of that god. At a later period, at the tomb of Memphis, obelisks were found before the doors of sepulchres, and this mode of using them for sepulchral purposes was continued from the time of Ptolemy. Another remarkable use of obelisks at this period was the placing them on the top of truncated pyramids, while other examples had been found to have globes at the top. In the 11th Dynasty obelisks were placed before the temples of the kings at El Assasif. The first obelisk of the old Empire which remained as attached to the temple, as distinguished from those employed for sepulchral purposes, was the obelisk at Heliopolis (of the 12th Dynasty), to whose tutelar deity it was dedicated. Heliopolis was a great city of obelisks, and it was thence the obelisk known as "Cleopatra's Needle" originally came, the place being called *Ben-ben-ha*. Probably the obelisk was of a sepulchral origin, and represented some primitive form handed down to remote times. In the 12th Dynasty they were placed before the doors, but were no longer sepulchral, being rather of a triumphal character, set up by the great kings of the 18th and 19th Dynasties. They might be compared to the triumphal columns of the Romans, because they were only allowed under certain circumstances, and then by permission of the priests. He considered the obelisk to be a kind of primitive stone flag, on which were inscribed the names, titles, and honours of kings. As to the caps, they were probably placed on the top, but did not extend very far down. That there were caps would appear from the numerous inscriptions which were on the obelisks at Alexandria, which were stated to be capped with gold, while one that was in the British Museum was said to be capped with some black metal,—probably iron. The oldest obelisk had only a single line of hieroglyphics down the centre of the shaft's side, lines being added by different monarchs, not on all of them, but on a few. The inscription on the side of the obelisk—that was to say, the central line—contained the honorific titles of the kings. Every Egyptian king had five titles. The Horus, or Harmachis, title was designated by a hawk, which they saw on the top of the obelisk, having beneath a square compartment called a banner. Obelisk inscriptions were merely honorary; but they generally contained information, incidental, as it were, in mentioning the titles and honours of kings. The secondary inscriptions were added by monarchs who were successors of the kings who set up an original monument. How they were added he (Dr. Birch) was not prepared to say, and whether they were lowered or a scaffolding made they had no means of judging. They only knew that certain monarchs, particularly Rameses II., added two lateral lines to the centre monument, one object being to make it symmetrical. These secondary inscriptions appeared on many of the great obelisks, which took a great deal of time to construct. There was one at Rome which was stated to have been thirty years in the hands of the workmen before it was set up, and two reigns passed by before it was placed in its intended position. The obelisks at Alexandria were two, and were removed there from Heliopolis, according to the inscription. The standing obelisk, which had not been removed, represented the youth of Rameses II.; therefore the secondary lines were added in his youthful years in the nineteenth dynasty. The erection of the obelisk of Alexandria itself at that place was no older than the age of Cleopatra. Mr. Dixon was the discoverer of the crabs on it, and it was found that the standing obelisk, when set up, had been supported at the four corners by bronze crabs. On one of the claws he found the name of the Roman architect Pontius, and the following,—"B.C. 23, set up by Augustus." These obelisks were probably removed by Cleopatra, and tradition assigned them to that queen,—there being every reason to believe that tradition was correct, one author quoting some ancient authority to that effect, saying that they were placed in the Cæsareum in honour of Julius Cæsar. They were found close to the shore. With regard to the standing obelisk, two sides of it had been found to be seriously injured by the effects of sea, wind, and the atmosphere. It was said to be purchased by the Americans with the object of having it conveyed to New York, and it was to be hoped that her sister would be safely brought to this country and placed at Westminster or wherever the site might be. Since the time of Niebuhr the obelisk had twice been turned over. It formerly no doubt stood close to the side of the fallen one at the time of Niebuhr, and there was every reason to believe that it was turned over by the French and subsequently by the British in 1801, when it was attempted to remove it by the army and navy as a monument of British valour. It, however, lay embedded in the sands of Alexandria for several years, and although Joseph Hume, the economist, brought forward a motion in Parliament to have it removed, the expense was estimated at 10,000*l.*, and the Government declined to take the vote of the transport to England. Such was its fate till 1867, when it was again offered to the British Government because the Khedive had let the land, and it was found to be a tenant that did not pay rent, and therefore the landlord wished to get rid of it; but the Government again refused it. They all knew, however, that, owing to the liberality of Professor Erasmus Wilson in directing the removal of the obelisk to this country, he had made a most magnificent donation to his fellow citizens in his desire to enrich the metropolis with one, at least, of these obelisks. With regard to the mode in which obelisks were anciently removed, there was one which was really represented as coming out of a cylinder, but he would rather think that the ancients removed them in galleys, and did not adopt the ingenious construction of Mr. Dixon, and attempt to tow them across the Mediterranean. The Romans removed them for the sake of placing them in the Spinæ Hippodrome and the Circus Maximus, the obelisks being placed in the centre of the Spinæ. By the kindness of Mr. Dixon, they had before them an excellent model of Cleopatra's Needle, and he had had the opportunity of examining the four sides of the original. As it stood, the obelisk had three lines on each side, making in all twelve lines. The central line was placed by Thothmes III., and stated that the Horus, Lord of the Upper and Lower Country (Egypt), the powerful bull crowned in Western Thebes, King of the North and South, "made his monument to his father, and had set up to him two great obelisks, capped in gold, at the first time of the festival of thirty years. According to his wish he did it. The son of the son Thothmes, type of types, did it." The question of the festival of thirty years, Dr. Birch continued, was a very important one, and was mentioned in the Rosetta Stone, but it appeared from an examination of different obelisks,—and here he was indebted to his friend Mr. Basil Cooper for the information,—that the festival of thirty years was a kind of lunar year, which fell from time to time and was seized upon as a kind of jubilee in order to erect these monuments. The most important of them was set up for the first time, in celebration of the thirty years' festival. On the centre side of the obelisk it stated that "the Lord of the Gods has multiplied to him festivals on the great Persea tree in the midst of the place of the Phœnix. He is recognised as his son; he is a divine person; his limbs emanate everywhere." On the fourth side mention was made of "the making offerings to their majesties at the two periods of the year that he might repose by means of them with a sound life hundreds of thousands of festivals of thirty years, and very many other festivals." In his (the lecturer's) opinion, Rameses II. placed his name on the obelisks, and erected them during his youth. On the standing obelisk at Alexandria it stated that Rameses was a young man, which would not be inscribed unless he had been in his youth. In conclusion, Dr. Birch said that very soon he hoped they would have the pleasure of seeing the obelisk in London. With regard to the details of the size, Mr. Dixon would be able to explain all particulars. There was one point he should like to call their attention to. They had all heard of the Great Pyramid, and of it being a wonderful work, of beautiful design, with proper proportions, and so forth, but unfortunately they never came across any Egyptian monument which was perfectly square. This obelisk was 7 ft. 5 in. wide at one side of the base, and 7 ft. 10½ in. at the opposite side. He did not know whether any one present had ever taken the trouble to measure the four sides of the Pyramid, but no doubt it was not symmetrically constructed, the proportions probably varying within certain limits. He had never seen an Egyptian courtyard perfectly accurate in all respects. He could only express a hope as regarded the obelisk that very soon they would have the opportunity of looking at it themselves in order to resolve their doubts upon certain parts of the inscriptions, and to see what effect a colossal monument of this kind, taken from the site of an ancient civilised nation and placed in the capital of the civilised world, would have.

Mr. W. Dixon, C.E., then exhibited a capitally-executed model of the obelisk, and said that with regard to the engineering details, they were very recently described by his brother at the meeting of the Royal United Service Institution. He thought it was Herodotus who first described the way in which obelisks were brought down from Assouan. As to their erection, they had no precise knowledge of the means used. He judged it was by some simple means, or else a record of it would have been left. As to the removal of the obelisks, the ancient Romans had not to navigate the terrible Bay of Biscay, which had been so disastrous to their enterprise, but the circumstances showed that by modern means of transport an obelisk could stand the danger of being cast adrift in a storm, and if it had not been found off Spain, it must still have been safely floating about. He then proceeded to refer to the means of shipment, which has already been made public. With respect to the bronze crabs found beneath the standing obelisk, he had made a drawing of them. He also found on one of the claws the traces of an inscription, which stated that the name of the architect who had set it up was Pontius.

Dr. Birch asked if Mr. Dixon could give them any information as to the use of the obelisk as a sun-dial.

Mr. Dixon replied that formerly obelisks in Egypt and Rome were used as sun-dials.

The Chairman said that, with regard to what had been stated respecting the two sides of the obelisk not being precisely the same in dimensions, it was quite possible that it might be the result of carelessnes, or the desire to make use of the whole of the stone available; but it had been suggested that there was a much more subtle reason prompting the Egyptians in this matter. They knew very well that an upright monument of that sort seen against the sky looked much thinner than against a dark background. The obelisk being for the most part against the gateway, the narrow side being parallel with the building, it was seen at the side against the light, and did not appear any-

thing different from ordinary stonework. It was due to the Egyptians that they should have the credit of this ingenious suggestion. The difficulty of getting these obelisks was something enormous, and they had practical proof of that not long ago. The committee originally appointed to raise the Prince Consort Memorial for London considered the advisability of letting it take the shape of a granite obelisk, but they found the difficulty insurmountable, for there were no quarrymen in England who would undertake to supply such an obelisk as was proposed. As to the origin of obelisks, it seemed to him that Dr. Birch hardly went far enough back; for a simple stone raised on end as a memorial, and to which there were numerous references in the Bible, might be regarded as the origin of the obelisk, while a piled-up heap of stones might be the origin of the pyramid. With respect to the term "Cleopatra's Needle," he had heard people sneer at the title as a vulgarism: it seemed to him that it was the best that could be given, for the equivalent of *obeliscus* was needle, and although Cleopatra was dead before it was raised at Alexandria, yet it was understood that it was removed there at her suggestion. There was one point he wished particularly to call their attention to, and that was in regard to the question of site, which was a very important matter. They were all, he believed, deeply interested in that obelisk, a memorial which Joseph and Moses had gazed upon, and which had been erected before Greece and Rome had risen. He had found himself, after anxious consideration, quite unable to agree with the opinion expressed as to the advisability of placing it in Parliament-square. It seemed to him to be utterly a bad site, and he was sure that they would thoroughly regret it being placed there. He was aware that Professor Erasmus Wilson and Mr. Dixon had given a preference for that site, but it should be considered that if it was there erected it would be placed amongst lofty towers and spires; it would be degraded itself, and would degrade all the statues around it. He was quite satisfied that the Thames Embankment offered a satisfactory site. To put a monument over a constantly vibrating tunnel would be a "tempting of Providence." He was very much afraid that unless there was a strong expression of feeling against it, Parliament-square would ultimately be fixed upon as the site.

Mr. Charles Barry said that with respect to the question of the site he had ventured to express a strong opinion in the same direction as the chairman. He was sure that Professor Erasmus Wilson and Mr. Dixon would be the last to deprecate an expression of feeling on a matter of such great interest to them, and that they would, therefore, receive any suggestion that came from critics in a spirit in which it was tendered, knowing at the same time that the labour, expense, and ingenuity which were involved in bringing this monument to this country would meet with its due reward, not only from the present generation, but in generations to come. In letters to the *Times* he had suggested a site which he knew was attended with some difficulty, but it seemed to him to fulfil the requirements better than any in London. Other positions, however, might be found equally good and even better, but he joined heartily with the chairman in expressing a fervent hope that it would not be put in Parliament-square. A monument such as this was to be looked upon as an antiquarian relic and to adorn the city. If they considered it from an antiquarian point of view it should have gone to the British Museum, but he entirely sympathised with those who thought it had some higher value in the eyes of those Londoners who were anxious to have it as a monument. He had endeavoured to become converted to the Parliament-square site, but in vain, and the more he looked at it from different points of view the more it would not contrast. Its own simplicity of outline seemed to rob other buildings of their proper scale, which could not be desired by those who admired them; they seemed to detract from that simplicity and contemplative feeling with which a pure, simple monument like this ought to be regarded. The objection on the ground of its unstable position was a serious one, if there was no other. Another difficulty was that, having only one obelisk, they had to consider it a central object wherever it might be placed. If there were two, they could be properly placed on either side of the porch of some building, as in ancient times. At Parliament-square it seemed to be out of scale with everything around it, except in one position, and that was coming up from Palace-yard towards Great George-street, where it was seen against the sky; but in the metropolitan changes in view no one could say that the buildings in Great George-street would not sooner or later be of totally a different character, when the last refuge of admiration would then disappear.

Mr. Dixon, at the request of Mr. Grover, explained that the obelisk was 68 ft. 6 in. high from the base to the apex, and that it weighed 186 tons.

Mr. Grover urged that a monument of this description should be placed in a conspicuous position, and this would not be the case, he thought, if it were placed on the Thames Embankment. With respect to the beautiful statue of Cœur de Lion, he maintained that it ought to be put in a more prominent position.

Major Joseph urged that an obelisk should be placed in such a position where people were likely to see it.

Dr. Birch said it had been thought desirable to place it in the court-yard of the British Museum, but he fancied the centre of Regent's Park, where it would have a fine sky-line, surrounded with trees, and be accessible. Under any circumstances, he trusted that due precautions would be taken to secure it from the injuries of a British winter. Even in Rome obelisks had the appearance of being washed by rain, and the hieroglyphics disappeared unless care was taken. He trusted that the best authorities would be consulted with a view that the obelisk should be protected against the English winter.

The Rev. Mr. Mayhew proposed the courtyard of St. Paul's Cathedral as a suitable place for the obelisk.

Mr. Morgan then proposed a vote of thanks to Dr. Birch and Mr. Dixon.

Mr. E. P. Loftus Brock, in seconding the motion, said that he had received a communication from Lord Houghton, who expressed a strong desire that the obelisk should be placed in the court-yard of the British Museum, which position he (the speaker) considered to be one of the worst.

Mr. Godwin said that before putting the vote he would say that it would be a lamentable thing if this great memorial should be treated as a mere curiosity, and taken to the British Museum. As regarded St. Paul's Cathedral, the fact of the distance, if nothing else, was to be considered: to be traversed by this great mass of 186 tons, and also up a hill, would be a task almost insurmountable. With regard to Mr. Grover's suggestion, as to the placing of the statue of Cœur de Lion more prominently, he (Mr. Godwin) concurred in that view, and suggested that it should be placed in Parliament-square, where it would contrast most beautifully with the surrounding buildings.

The vote was then put, and carried with acclamation.

"THE DESIGN IN THE OBELISK."

SIR,—Because Egypt was the centre of civilisation and knowledge in the era in which Cleopatra's Needle was quarried and was set up, it is concluded that the Egyptians must have had a reason for all that they did. No doubt they had, but, like other peoples far more civilised and possessing much greater knowledge, not always a sufficient and a right reason. We should not forget that the obelisk and the pylon were coeval with the mummification of cows, cats, and birds, and with the puerile mural decorations of the temples. For these performances the Egyptians doubtless also had *their* reasons, but reasons which we feel quite sure would not justify us in following their example. We must, nevertheless, thank Mr. Phené Spiers for endeavouring to account for the inequalities in the measurements of the facets of Cleopatra's Needle. If his ingenious hypothesis were correct, all obelisks should exhibit the same peculiarity, and a proportionate adjustment of the correction. I have not the data which would enable me to affirm whether they do or do not, but Mr. Spiers will probably be able to inform us upon this point.

The interesting paper on obelisks in the *Builder* of October 27th does not give us the particular dimensions of all, but it does record two cases of inequality in the dimensions of the sides of obelisks, viz., in those of our own, and those of the Lateran monolith. How do these measurements tally with Mr. Spiers's hypothesis? The variation in the lesser obelisk is as 89 in. : 94½ in.; in the greater, 116½ in. : 108 in.,—that is to say, in the one case the narrower sides are about 1-17th less in width than the wider, and in the other about 1-14th. The greater obelisk has, therefore, the greater allowance made to counteract the phenomenon which Mr. Spiers calls to his aid. Should this be so, according to the hypothesis? I think not. For if we could imagine a series of obelisks gradually increasing in their relative dimensions, the deterioration of width by the phenomenon he supposes would be less and less in proportion as the width of the facets increased. In short, the phenomenon would be a constant quantity, whereas the dimensions of the facets would increase. But in the examples quoted the Egyptians have made the difference between the width of the sides greater in proportion in the greater obelisk than in the less, which should not be the case if they had been conformed according to Mr. Spiers's hypothesis.

May not these differences in the width of the sides be due either to the effacement of pre-existing records, to their use as gnomons, or to the accidental inequalities of quarrying? At all events, the measurements of the species obelisk might help us to a decision.

W. CAVE THOMAS.

METROPOLITAN IMPROVEMENTS AND ARTISANS' DWELLINGS.

The New Street from Charing-cross to Oxford-street.—At the meeting of the Strand District Board of Works on the 14th inst., Mr. Pratt asked if the Board's representative at the Metropolitan Board of Works could give any information as to when the new street from Tottenham-court-road to Charing-cross would be commenced.—Mr. Bonsor understood that they were waiting in consequence of not being able to comply with the clause inserted for the purpose of providing for the people of the poorer classes whom they would be compelled to dispossess.—Mr. Phillips said that was not the fact. The truth was simply that the Act gave the power to construct some other streets besides the one mentioned, and the Metropolitan Board, finding in some that they were not in any way affected by the Artisans' and Labourers' Dwellings Improvement Act, resolved to take them first. Several representations had been made to the Metropolitan Board upon the subject from different quarters,—notably, a memorial from the Vestry of St. James, asking them to push on the work, to which a reply had been made that no unnecessary delay would take place, and that was the only answer it was in his power to make to the Board.—The clerk was instructed to write to the Metropolitan Board of Works, informing them that in the opinion of the Strand District Board it was expedient that the work of making the new street should be proceeded with without delay.

Royal Mint-street.—At the last meeting of the Whitechapel District Board of Works, a committee presented a report containing a proposal that it be a recommendation to the Metropolitan Board of Works that the works under the Artisans' Dwellings Act in Royal Mint-street be commenced from the eastward, and that, if considered necessary by the Board, the Home Secretary be memorialised upon the subject, to urge that, for sanitary reasons, the operations be commenced forthwith. In connexion with this matter, the committee further intimated that they were informed by the medical officer of health that the condition of several parts of the area to be dealt with was now much worse than before the official representations which had led to its being brought under the operation of the law, and consequently great danger to the public health to be incurred, and rendering it of the highest importance that something should be done without delay to remedy the evil. He had already caused some of the houses to be closed, and should consider it his duty to adopt the same course in regard to others.——Mr. D. Munro, representative at the Metropolitan Board, said that one of the difficulties which confronted the Board in dealing with schemes of this nature was how to comply with the requirements of the Act of Parliament in providing homes for the people who were dislodged in effecting the improvement of areas of this description. Those who wanted to acquire the land as a site for model dwellings would not give more than one-third of its improved value, and the Board was naturally averse to enriching public companies at the expense of the ratepayers.—After a protracted debate, it was eventually resolved that a recommendation of the nature proposed by the committee be forwarded to the Metropolitan Board.

MANCHESTER BATHS AND WASHHOUSES COMPETITION.

The site of the proposed new buildings will be 230 ft. by 86 ft. As we have already said, Mr. John Johnson, of No. 9, Queen Victoria-street, London, has gained the first premium of 200*l.* by drawings distinguished by the motto, "Economy well considered." The estimate for the entire building is given as 15,300*l.*, and of the engineering and fitting work as 4,300*l.*, making a total of 19,600*l.* The following are some of the particulars of this design:—Situated at the corner of the plot formed by New Islington and Baker-street, is the public hall of two stories, each room being 72 ft. by 36 ft., the upper floor being supported by wrought-iron beams. The approaches are by means of stone stairs and ample passages, and the requisite rooms and conveniences, with a gallery at one end and the two sides, are shown upon the plans. The two large swimming-baths are approached by means of a double entrance-hall in Baker-street, the first-class bath being 80 ft. by 25 ft., provided with sixty dressing compartments; and the second-class bath being 100 ft. in length and 29 ft. wide, with sixty-eight dressing compartments. Thirty-two first-class private baths are arranged in galleries extending above the swimming-bath, and these are reached by means of stairs from the entrance-hall. Eighteen ladies' private baths are arranged on the second-floor, above the laundries. The swimming-baths are placed longitudinally parallel with what we may call the back wall, the washhouses and laundries are at the corner of Baker-street and Horne-street, and the two-storied public-hall is at the corner of New Islington and Baker-street. The general design of the exterior and interior is in a plain simple Italian style, with little in the way of ornament.

The Bath Committee of the Corporation called in the aid of Mr. Thomas Worthington, architect, to report and advise upon the designs, and assist in the adjudication of the premiums.

DISPUTE AS TO RIGHT OF LIGHT.

BIRKETT *v.* HUGHES.

In this case, heard before the Hastings Borough Bench on the 8th inst., Mr. Henry Hughes, a builder, and a member of the town council, was summoned for wilfully knocking down a hoarding or wooden screen, and doing damage to the amount of 4*l.* 18*s.* 4*d.*

Mr. F. J. Mann said, the complainant, Mr. James Birkett, was the freehold owner and occupier of 12, Maze-hill, St. Leonards, and his garden was overlooked by a window in the house, No. 1, Maze-hill-terrace. In order to secure the privacy of his garden, Mr. Birkett had erected a substantial hoarding, the posts supporting which had been sawn through at the direction of Mr. Hughes.

Mr. Birkett said the hoarding was up for a week. It was inside his garden. In cross-examination the complainant said there were windows overlooking the garden, and this had been the case as long as he had lived there. The hoarding was put up for the purpose of defending his property. He had put the hoarding up to prevent an easement, and to assert his right to do so. He had previously been lessee of the property, of which he became the freeholder in June last. The hoarding, which was within 3 ft. of the windows, was intended to block out the light and to assert his right.

Mr. Lamb, for the defendant, raised the question of jurisdiction of the Court, and maintained that it was a case for the county court.

After some further discussion, the magistrates retired, and on their return into court the mayor said the magistrates had jurisdiction in the case.

Formal evidence was then tendered to prove the commission of the damage, and Mr. A. Smith, architect, who had superintended the erection of the screen, spoke of the cost of erection. The terrace was not erected in 1860.

The Mayor said the Bench had decided to convict. Mr. Hughes would be fined 1*l.*, and 2*l.* 4*s.* damages, and costs.

Mr. Lamb applied for a case for a superior court, which was granted.

CABMEN'S SHELTERS.

Leeds.—The following is the section in the Leeds Improvement Act, 1877, in reference to Cabmen's Shelters:—

Section 105.—"The Corporation, as Surveyors of Highways, may authorise and permit such suitable erections as they may approve of to be placed in such of the streets of the borough as they may think fit, for the use, convenience, and shelter of drivers of hackney carriages plying for hire, and may make bye-laws for the management and use of such places, and the conduct of the persons resorting thereto."

At present there are in Leeds three cabmen's shelters not in the highways. There will now be no legal obstruction to the extension of the movement to the streets if thought desirable by the promoters and Corporation.

Liverpool.—The Corporation of Liverpool are erecting a cabmen's shelter at the cost of 188*l.*, but it is in substitution of one erected some years ago by public subscription. The new structure is a moveable one, seven yards by three yards inside, and its height is 8 ft. at the sides and 12 ft. in the centre.

Wakefield.—The cabmen's shelter for the drivers of Wakefield, presented by Mr. William Hartley Lee, J.P., in memory of his late wife, has been formally opened for use. It is a substantial erection, and has been placed at the top of Westgate, in front of the Corn Exchange. Mr. F. Simpson is the architect, and Mr. Squires is the builder. The shelter has been handed over by Mr. Lee to the Wakefield Tradesmen's Association, which will undertake the control thereof.

MONUMENTAL.

Bath.—It is stated that the monument to Bishop Montague, which stands in the nave of Bath Abbey, is to be redecorated at the expense of the Town Clerk, Mr. John Stone, who has instructed the city architect (Mr. C. E. Davis) to superintend the work. It is considered probable that the monument will be removed from its present position, and placed in the chancel, near Prior Birde's chapel.

Dorchester.—An interesting letter, signed "F.S.A.," on the monuments in St. Peter's Church, Dorchester, appeared in the *Dorset County Chronicle* for Nov. 15.

EMBOSSED FLOCK PAPERS.

Messrs. W. Woollams & Co. have sent us some specimens of their new improved embossed flocks, for which they have just completed patents.

The patterns in flock papers are, as a rule, in very low relief, or, if raised, as they sometimes are for painting, present but one plane to the eye. In these now made by the patent process, the design is raised much higher above the level of the surrounding ground, and is afterwards embossed or modelled by pressure so perfectly that any effects a skilful artist can create by modelling, chasing, or carving in bas-relief can be readily produced, with so great a truthfulness of expression that the artistic excellence of the work cannot fail to commend itself. These papers, which afford a material for the enrichment of surfaces with tasteful ornament in actual relief, casting its own shadows in the right direction from every light, and easy of application, will be welcomed by many.

They are made in coloured flock, with or without gold, ready for use in every variety of tint; and also in white or undyed flock, for painting over if required.

We are bound to admit we are no great admirers personally of flock papers pure and simple: they collect the dust; we prefer to have them painted. The patterns of the new papers we have seen are excellent.

FUNGUS.

Sir,—That which your correspondent complains of is the result of damp, against which such ventilation as he describes is only a partial remedy. Let him make the soil as dry as possible by putting drains outside, and, if needful, inside also; then cover the ground under the floors with some dry hard rubbish, faced with 4 in. to 6 in. of Portland cement concrete. If the timber used is treated according to the process of Sir William Burnett & Co. (90, Cannon-street, E.C.), it will resist fungus and the other effects of damp in such a situation.

Thos. Blashill.

Sir,—In answer to Mr. Pickard's letter in your paper of November 10th, I would advise him to put a layer of asphalte on the ground before he lays a new floor. This will remedy the evil he complains of. Having had twenty-six years' experience in the asphalte trade, I have had many places of the kind to contend with. This plan was adopted and used by me at the British and Foreign Bible Society's premises in Victoria-street.

T. Faldo.

DRYING ROOM.

Will some one experienced in such matters kindly say what sort of room or building is required for smoke-drying bacon on a small scale, and the mode of operation?

T. C.

GAUGES OF ROOFING ZINC.

Sir,—Can you obtain for us the reasons for changes in gauges of roofing zinc?

Zinc, 24 oz. to the foot superficial, proper for flats, used to be stamped No. 15; and 26 oz., for gutters, No. 16. For some time past, however, No. 15 has been stamped on 21¼ oz., and No. 16 on 24½ oz., by manufacturers, to whose stamps I had been accustomed to look for convenient checking of work as laid. Of course, when the change was noted, I determined to drop all mention of gauges in specifications, and to describe only the weight per foot. But these somewhat eccentric weights per foot are not universal. Laxton's Price-book for 1877, for instance (p. 270) gives the following list quite in the old way:—

Gauge	13	...	14	...	15	...	16
Weight per foot sup.	20oz.	...	22oz.	...	24oz.	...	26o

No doubt this must apply in numerous cases; and other variations occur besides. There is, one finds, a disposition on the part of builders to order from their dealers the weight nearest to that described,—that happens to be lower, not higher. Of course, no one can accept the stamps as evidence now without question. The edges of sheets are frequently so uneven in thickness, that the only way to apply a fair test is to weigh a whole sheet. Cannot some custom be steadily adhered to pretty generally? For instance, might not zinc for roofing purposes be made to the same gauges by all the trade, and stamped accordingly? Unexplained changes in the direction of thinness give a sort of sensation of being left in the lurch by former loyal allies in overcoming the old bad habit of using thin zinc, and palming off wrong gauges, who volunteered assistance to architects in getting justice done to their employers. But perhaps manufacturers have some easy explanation which will satisfy

An Architect.

"SILICATE COTTON."

Slag wool, or silicate cotton, is used as a non-conductor, and acts as an efficient and powerful isolator of both heat and cold without deteriorating or being affected by either. It can, at the same time, be applied easily, and in such a manner as to adhere to the surfaces to be covered, and to remain efficacious under all conditions of temperature, weather, damp or wet from the outside.

The process of manufacture is extremely simple. A jet of steam is made to strike upon the stream of molten slag as it falls from the usual runner into the slag-bogies or wagons. This jet scatters the molten slag into shot, and as each shot leaves the stream it carries a fine thread or tail with it; the shot, being heavy, drops into the ground, whilst the fine woolly fibre is sucked into a large tube and discharged into a chamber. This chamber is very large, and is covered with fine wire-netting or sieve-wire. The steam and air carry the woolly particles all over the chamber—the finest into recesses formed for the purpose, the heavier into the body of the chamber. After each blowing it is selected and taken up with forks and put into large casks or bags for shipment or otherwise. The inside of the chamber represents a remarkable spectacle after each blowing. The wool is of a snowy-white appearance. Slag wool, or silicate cotton, is chiefly employed to cover steam-boilers, pipes, &c. Messrs. Jones, Dade, & Co., of London, are the sole agents for its sale, and they have taken out one or two patents for its application. The most noteworthy of these is for what they term mattresses. These are about 2 ft. to 3 ft. long, and 1 ft. wide, by 2½ in. thick. The mattresses are laid upon the boiler or pipes to be covered, and are secured in the usual way. Its perfect incombustibility, combined with its non-conducting and indestructible properties, give this material many advantages over any other for this class of work. It may be used to deaden sound.

School Board Architects, Bradford.—At a meeting of the Bradford School Board on the 14th inst., the following resolution was agreed to:—

"That Messrs. Hargreaves & Bailey be appointed additional architects to the Board, their remuneration for preparing all necessary plans and doing all other architect's work, including supplying contractors with quantities, to be 5*l.* per cent. commission on the cost of the buildings for which they are employed; and that Mr. H. P. Peterson, who was appointed architect to the Board on the 29th of November, 1876, be in future paid on the said terms."

THE ARCHITECTURAL MUSEUM.

By an advertisement which will be found on another page of the *Builder* it will be seen that a fitting opportunity is afforded the rising school of architects, more particularly the followers of "Queen Anne," by which their zeal may be tested as well as their faith in the quintessence of the revival. We refer to the offer which the council of the Royal Architectural Museum have put forth to members of the profession, with a view of making the Museum more comprehensive, to receive with thanks any gifts or loans of casts or examples of the later styles of English architecture, more especially the ornamentation o "Free Classic," as it is called, or "Queen Anne." Whatever opinion we may ourselves entertain for the style, there can be no doubt but that the Museum should contain examples of this and other kinds.

AQUARIUM AND ASSEMBLY-ROOMS, BIRMINGHAM.

The proprietor of the Aston Lower Grounds, Birmingham, has determined to erect an aquarium and a large assembly-room, with plant and fern house. The aquarium is to be a building 312 ft. in length. There will be nineteen show-tanks, each containing about 1,300 gallons of water. Opposite the show-tanks, and adjoining the aquarium promenade, will be a building, over 300 ft. in length, devoted to the growing of ferns and choice plants. The assembly-room will be 220 ft. in length, 90 ft. in width, and 50 ft. in height, with galleries at each side and at one end. A raised platform is shown at the other end, for musical or other performances. The whole is in the style called Victorian Gothic. The buildings are to be of brick with stone dressings. The buildings have been designed by Mr. Naden, architect, of Birmingham.

The *Birmingham Gazette* says that in addition to improving the appearance of Broad-street, by the erection of a row of shops on the plot of land that fronted the Prince of Wales's Theatre, Mr. J. Jacobs has added to the accommodation for public gatherings and public amusements which the town already possesses a new assembly-room. It is situated at the top story of the building which forms the frontage to the Prince of Wales's Theatre, and it is approached by a wide staircase. On either side of the entrance to the room are retiring-rooms, neatly fitted up. The room measures 65 ft. in length and 25 ft. in width. It has a coved roof, with moulded and figured frieze, representing Art in all its ramifications, and is lighted in the centre by three large chandeliers from the workshop of Messrs. Best & Lloyd, the firm to whom was entrusted the lighting of the Birmingham Arcade. The decorations are by Messrs. Lees, of Ann-street. The upper end of the room is to be fitted up with a small stage, with proscenium, footlights, and appliances for working scenery.

VICTORIA EMBANKMENT APPROACHES.

THE QUEEN *v.* METROPOLITAN BOARD OF WORKS.

In this case a rule was granted some time since by the Queen's Bench Division, calling upon the defendants to show cause why a mandamus should not issue commanding them to carry out a certain work in pursuance of an agreement entered into between them and the Marquis of Salisbury.

Mr. Biron last week appeared to show cause on behalf of the defendants. The rule was supported by Mr. A. L. Smith. The agreement in question had reference to the construction of a roadway 25 ft. wide through the Marquis of Salisbury's property from the Strand, opposite Exeter Hall, to the Thames Embankment, within fifteen months, and was entered into in consideration of the abandonment of a Chancery suit, and the withdrawal by the Marquis of opposition to a Bill promoted by the Metropolitan Board of Works.

The contention of the defendants was that they were at liberty to make the roadway 15 ft. wide, and two footpaths of 5 ft. width each. On the other hand it was contended that under the terms of the agreement the roadway should be 25 ft. wide.

At the close of the arguments, which were of a technical character, the Court made the rule for the mandamus absolute.

METROPOLIS BUILDING ACT AMENDMENT BILL.

Sir,—It is understood that another Bill is to be introduced, proposing to govern building matters by "*Bye-Laws*." As this is, in that particular, a reproduction of the one rejected on that very ground, one may ask, *cui bono?*

We are again asked to substitute "uncertainty" for "certainty." An Architect.

HINTS TO SPECULATIVE ARCHITECTS.

YARMOUTH AQUARIUM COMPANY.

Sir,—You have published the decision of Vice-Chancellor Malins in the above matter (as against poor Pugin's widow), and if you can give architects, when about to prepare designs for public companies, a few hints it would prove of value to the uninitiated. As I can speak from a very sad experience, in loss of health, vigour, and a good sum of capital, perhaps the following notes may serve the purpose.

A young architect is always willing and anxious to secure work, especially a large or public building, as generally proposed by companies. He hears that such is to be carried out, or pretended to be so, by a body of gentlemen who intend to form a company under the guidance of a Promoter, often a pauper, but who dresses well, is considered a good fellow in the City, invites you to some hotel to dinner, and of course there is the inevitable solicitor, a highly respectable man or firm. The architect is beguiled into preparing sketches, and perhaps to take some shares,—merely for form's sake,—nothing to pay upon them,—just to show the other intending shareholders that the architect has confidence in the matter,—and any payments for shares can be deducted from his professional charges, &c. The architect is, perhaps, led to sign the Articles of Association; thereby (poor fellow) becoming a contributor, or really a promoter (as the Vice-Chancellor puts it) without the least idea what he is doing. Further, he is assured of the genuiness of the matter by a splendid prospectus, to which his name is to be added as architect, at which, perhaps, he is very pleased (at least, I know I was fool enough to be so some years since). Everything looks and goes well; he attends directors' meetings, takes instructions and so forth from them, and thinks he is working for them, but does not think or know that it is necessary to have himself proposed and appointed by the directors as architect to the company, and so entered on the minute-book. Time rolls on; at the end of one, two, or, at most, three years, things do not go on so smoothly, shareholders are dissatisfied, creditors are clamorous, when a big general meeting is held, formerly at the late London Tavern, and now at Cannon-street Hotel. Where is the promoter, or the highly respectable solicitor? The directors behave, as a body, so as they dare not do in their individual capacity. Then comes the liquidation. How few when they take shares think of its consequences? The architect makes out his account, and sends it to the Court or private liquidator, disappointed and disheartened. A few months elapse, a call is made: the architect, to his astonishment, receives—"Notice, you are requested, &c., to pay 2*l.* 10*s.*," on, perhaps, 50 or 100 shares. You protest against payment, you never did pay anything, and it was not intended you should pay for any shares. You are informed the deposit on your shares was paid, and the allotment letter was sent you, and your name is on the list of subscribers. "You must pay, and perhaps you will let me have the amount at the earliest convenience, &c." Here begin the trouble and confusion. Perhaps you have forgotten about the allotment note; however, after a search you find it, and try to find the said promoter,—but where? You go to your solicitor. Here begins another "act": (set scene) bill of costs in the distance,—worry and anxiety in the foreground,—and be thankful if this is the only company you are acting for. You now begin to learn the law: you are told and advised that you must pay the calls. "Yes! but here is my claim against the company, cannot I prove this in liquidation and deduct these calls from it?" Very natural,—but, alas! not legal. Mr. Court-de-Chancery says "You must pay your calls due before you can prove for your account, and be placed on the list of creditors." Well, you feel disgusted, get a handy "Book on Companies" (Effingham Wilson's to wit), consult with some private friend or chum; perhaps he helps you. Thinking it is all right you pay the money (calls), and expect in time to be paid your account, or a dividend upon it, and rest a little easy in your mind. After a time you call upon the liquidator, asking when you may expect a dividend? He is very civil, &c., but politely tells you you have no claim against the company; you were not appointed architect by the directors, there is no minute in the book to that effect: what work you did must have been for the "promoter" (Pugin case), who was paid certain fees for *formation money*, including designs, plans, &c. And you must look to him for payment. You, of course, protest, consult with your solicitor again, and you are very fortunate if, by dint of the strength of right, you can get a small allowance, which generally does not amount to the calls paid, or the "costs" to come; or perhaps you take it into court, like Mrs. Pugin, and you learn the result, as Crabbe has it:—

> "Hard is his fate who builds his peace of mind
> On the precarious mercy of mankind."

I have thus written my knowledge of company-making, of which I have had a fearful experience, being drawn into them by pretended friends, who, of course, received their commission on my shares. These few words may be of great service to future intending architects to companies, and perhaps save them from disappointment, and, it may be, financial ruin.

A Victim.

OUR SCHOOLS OF ART.

Sir,—Your correspondents, "A. B. & C.," writing in the *Builder* for Nov. 10, under the above heading, exhibit a misapprehension of the subject, despite their study of "Blue Book" and "Directory." They say the one purpose for which these schools were established was "to teach young men the profession of a designer, or, if need be, an artist." This statement shows ignorance of the history of the Department of Science and Art. The teaching of design no doubt forms a part of the curriculum of such schools as are situated in centres where such study bears upon the practical business of life, and in those centres the masters are thoroughly acquainted with the subject. Whether it be possible or desirable to teach young men to be artists is questionable.

With respect to the possession of certificates by the masters, it is within the personal knowledge of the present writer that the masters of three of the schools "A. B. & C." name, who have only the first certificate, are professional artists who only took the certificate in order to put themselves in connexion with the Science and Art Department. The possession of more certificates would be of no value to them; so that the number of certificates is no criterion as to the capabilities of a master. There are not wanting cases where a school under the direction of a many-certificated master did not show to great advantage, but flourished and did good work under one of "A. B. & C.'s" despised two-certificate men.

The proposition that "committees should insist upon seeing every branch of fine-art work executed by a master before he is engaged" is highly comic. One can imagine the scene; and, after all, they might select a master entirely devoid of teaching faculty. No, "A. B. & C.", that method of choosing a teacher will not do.

There are, no doubt, many flaws in our system of National Art Education, and it would be well were the eccentricities of the administration of the Central Department brought to light; the plurality of livings of the head master noticed by your correspondents is one worthy of note; but little good will be done by writers with imperfect knowledge of the origin, progress, and present position of the Department of Science and Art.

Andros.

RAILWAY ITEMS.

St. David's.—A Cardiff paper says that the promoters of the St. David's Railway have determined to run a branch line from Haverfordwest to a junction proposed to be made at Treffgarne Rocks. Originally it was the intention of the promoters simply to effect a junction with the Great Western Railway at Clarbeston-road, but by the altered arrangement a direct line of communication between St. David's and the southern part of Pembrokeshire will be given.

South-Eastern and London, Chatham, and Dover.—Notice is given of the intention of these companies to apply to Parliament in the ensuing session for leave to bring in a Bill to make provision for the joint working and maintenance of these lines, with a view to ultimate amalgamation.

Proposed New Line between Farringdon-street and Regent-circus.—Application is to be made to Parliament next session for an Act authorising the formation of a new railway between Regent-circus and the Metropolitan Railway at Farringdon-street. It is proposed that the line shall be

made beneath the new streets now in hand or about to be commenced by the Metropolitan Board of Works.

London and North-Western.—A special general meeting of the proprietors of the London and North-Western Railway was held on the 13th inst., for the purpose of creating and issuing new capital, authorised under "The London and North-Western Railway (Bletchley, Northampton, and Rugby) Act, 1875," to an amount not exceeding 900,000*l.* to defray the cost of widening the line. A large portion of the land for the purpose has been bought, and the works are going on rapidly.

Swindon and Andover.—Efforts are now being made with a view to get the support necessary for the construction of the Swindon and Andover Railway, the Act for which was obtained two or three years ago. The companies directly interested in the line are the Great Western and the London and North-Western, the line connecting the two systems by stations at Swindon and Andover. The line would give direct communication between the South of England and the Forest of Dean and South Wales coalfields, and when the Severn Bridge Railway is completed the distances between those districts would be still further diminished.

Bath and Cirencester.—It is stated that a scheme is in contemplation to promote a railway between Bath and Cirencester, to commence by a junction with the Great Western Railway at Bathampton, and pass through Batheaston, Marshfield, West Kington, Netherton, Acton Turville, Luckington, Great Sherston, Weston Birt, Tetbury, Long Newnton, Crudwell, and terminate by a junction with the Great Western Railway at the Swindon end of the tunnel, near the Kemble Junction, with running powers into Cirencester.

VARIORUM.

Under the title "The Main Drainage of Oxford," Messrs. Jas. Parker & Co. have published a paper on the subject by the engineer (Mr. W. H. White, C.E.), read before the Ashmolean Society. As the illustrations include details of the various works it will be found useful by those who are engaged in drainage matters. We will take an opportunity to mention what has been done in this direction in Oxford. —— The "Gentleman's Annual" for Christmas, 1877 (in connexion with the *Gentleman's Magazine*: Chatto & Windus), consists of three stories, by R. E. Francillon, F. W. Robinson, and Julian Hawthorne, respectively, much above the average of similar productions. —— The Christmas number of *Tinsley's Magazine* is a story by Mr. Farjeon called "Solomon Isaacs." The heroine is a Jewess, and the story lies wholly among her people. The illustrations are somewhat coarse.——"The Gossips' Bowl" is the title of the Christmas number of the *Illustrated Sporting and Dramatic News*. Miss Braddon writes the leading story, entitled "Thou Art the Man." The illustrations are numerous.——The *Sunday Review*, a monthly magazine, ably advocates the object of the Sunday Society. A Plea for a Philosophical Language in the current number deserves earnest consideration.

Miscellanea.

Truro Cathedral.—The following suggestion is thrown out by the Bishop of Truro in a recent address to the cathedral body:—"The prebendal stalls in the old cathedrals are even to this day inscribed with the local names of the estates and churches with which they were until lately endowed. We have no such names to give to ours. But, in a country like this, where the names of places are so lastingly identified with the history of its Christianity through the names of the great missionaries who brought us to Christ, you would deem it inexcusable if I tamely entitled the stalls number one, two, three, up to twenty-four. I propose, therefore, to appropriate to them such local names as shall not only sound true Cornish, but also, by the help of your own distinguished antiquary and student, Mr. Bosse, to place them chronologically."

The New Military Brigade Depots at Caterham and Reading have just been completed for the War Department, the former by Messrs. Higgs & Hill, and the latter by Messrs. Cooke & Green. Mr. James Hill supplied about 300 locks for Caterham Depôt with keys differing throughout, and a similar number for Reading.

Temple Bar.—At a meeting of the Court of Common Council on the 15th inst., the City Lands Committee presented a report recommending that Temple Bar be demolished forthwith, excepting the south pier, which would be left standing pending the rebuilding of Messrs. Child's premises, and the north pier, or a portion thereof, which will be left standing pending negotiations with the Government. Mr. Rudkin, in moving the adoption of the report, said that with regard to the south side of the Bar, the Committee had so successfully negotiated with Messrs. Child & Co. as to induce them to throw into the public way land 4 ft. 6 in. wide, extending the whole length of their frontage, and this east and west of Temple Bar would lead to an immense improvement upon that side of the road. This particular foot-pavement was already 10 ft. wide, both in Fleet-street and the Strand; and as it was thought desirable that this should not be lessened, the Committee proposed that they still continue it the same width. A column or obelisk, they suggested, should mark the site of the present structure, the "rest" being 5 ft. wide. Thus they should be enabled to have a 17-ft. carriage-way—sufficient space for two carriages,—on the one side of the "rest," and a similar space on the other. This would leave 12 ft. for the footway on the north side of the Bar. The Government had been applied to upon this subject, and they had referred the Committee to the architect of the new Law Courts, Mr. Street, who, however, refused to concede a single inch. The Committee thought that, in carrying out a great improvement of this character, they had a right to expect something from the Government, and it was suggested that the latter might give them 2 ft. The report was adopted.

Proposed New Building Act.—The Metropolitan Board of Works has given notice of its intention to apply for leave to bring in a Bill in the next session of Parliament to amend and enlarge some of the powers and provisions of the Metropolis Management Acts and of the Metropolitan Building Act, so as to enable the Board to make further regulations, and to impose new restrictions with respect to the erection or alteration of houses and buildings, and particularly with respect to the distances at which such structures and the premises connected therewith shall be from the centre of any carriage or footway upon or near to which such properties shall, for the time being, be situated; to prevent the use for carriage traffic of roads of less width than 40 ft. where there are houses on each side of the road, or of less width than 20 ft. where there are only houses on one side; to authorise the Board to make and enforce bye-laws,— (1) as to the foundations and sites of houses and buildings, and the mode in and the materials with which such foundation shall be made, and the sites be prepared and completed; (2) as to the description and quality of the substances of which the walls shall be made; (3) the powers and duties of and fees payable to district surveyors; to enlarge the powers of the Board as to the removal of dangerous structures, and to provide for the recovery of the expenses incurred by them in respect thereof; to authorise the district surveyors to enter upon and to inspect houses, buildings, and works in course of construction: to confer upon the Board powers over and with respect to theatres, music-halls, and other like places of entertainment, and to enable the Board from time to time to make and enforce all such rules, regulations, orders, alterations, and restrictions as they may deem necessary or expedient in relation to such buildings for securing the public safety and convenience.

Bow Church.—The dragon vane on the spire of the church of St. Mary-le-Bow, in Cheapside, having been much damaged by the late gales, Messrs. Proctor & Co., engineers, of Turnagain-lane, City, proceeded to remove it. The height of the spire is 220 ft., and the length of the vane to be removed 8 ft. 6 in. Ladders are placed close against the building, and secured by a spike at the top; a second ladder is then hoisted from the first with a block and rope, the foot being well secured to the top of the other, and the second made fast as before, and so on until reaching the top.

Bricklayers' Technical Classes.—The first annual report, just now published (Office, 5, Great Queen-street West, S.W.), shows that the committee are satisfied with the result so far. The small funds subscribed appear to have been carefully expended.

Compensation Cases and the Metropolitan Board of Works.—At a recent meeting of the Board, Mr. Roche said, "The Committee wished it to be known that there was no necessity for employing agents, and that any person who had reason to claim compensation could come personally to the Board, where he was quite as likely to receive fair and liberal compensation as if represented by agents. If any agents had stated that they had greater facilities for approaching the Board, those representations were without foundation." A correspondent writes,—"After an experience of thirty years as valuer, I have found the old proverb stands true, that 'He who advocates his own cause has a fool for his client.' It rarely happens that a shrewd man of business, whose premises are required for public improvements, railway extensions, or what not, fails to know among his friends a competent and trustworthy surveyor, architect, auctioneer, and valuer, to whom he states his case, and with whom he arranges the preparation and settlement of his claim. This last act, the settlement, always involves much serious negotiation, tact, and good judgment. Sometimes it is advisable not to accept 'the final offer,' the *ultimatum* of the Board, and then the claimant has to choose between a jury, a special jury, and arbitration. The guidance of a gentleman trained in and accustomed to such matters is expedient (though there may be 'no necessity' for it) in each stage of these proceedings, especially as the Board, through its valuer, often makes more than one bid before it comes to the final offer; indeed, the practice of the Board is not such as to lead to the supposition that if claimants 'approached the Board' humbly and in person, they would always receive that 'fair and liberal compensation' to which Mr. Roche so fondly alludes."

The Parkes Museum of Hygiene.—This museum, which is in course of formation at the University College, Gower-street, is in a fair way towards completion, and will soon be available for the purpose of diffusing a practical knowledge of many branches of sanitary science. The museum is divided into a library and eight classes. The library will be devoted entirely to works on hygiene, reports, pamphlets, &c. Class 1 is devoted to local hygiene and sanitary engineering, and will consist mainly of plans, views, drawings, &c., illustrative of drainage, sewerage, water supply, burial, and the hygiene of crowded districts. Class 2 deals with hygienic architecture, and will be illustrated by plans and drawings properly classified and packed in portfolios for easy reference. Class 3 illustrates the important subjects of lighting and warming; Class 4, clothing; and Class 5, food. Class 6 deals with personal *régime* and comfort for invalids, including the transport and care of sick and wounded in battle; Class 7, with safety and rescue; and Class 8 with the hygiene of the professional and industrial classes.

"Jerry" Building.—"I am told on creditable authority [says the correspondent of the Birmingham *Daily Mail*] of a remarkably neat manœuvre executed by a 'jerry' builder of the most artful type. His suburban houses were duly inspected by the local officer when in course of erection. The regulation 9-in. walls were apparent everywhere, and even the out-houses and other walls showed the required thickness of brick. The official duly passed the work; but hardly had he turned his back when, hey! presto! down was pulled a big portion of the out-house walls, so that the old unsafe "single brick" alone remained. The extra layer had merely been built up temporarily to satisfy the authorities. I am told this is a favourite device with the gentlemen of the 'jerry' persuasion. If so, a second visit of inspection when the building is complete may be rendered necessary."

Working Lads' Institutes.—The first annual meeting in connexion with the Working Lads' Institutes, the first of which was established in Mount-place, Whitechapel, last year, with the view of providing to working lads, after their day's work is over, the comforts of a home, innocent recreation, good and useful reading, and the means of educational improvement, has been held at Stationers' Hall. The report showed the success of the movement during the year, and several of the speakers, among whom were Mr. W. Rivington, Sir R. Carden, and the Rev. Mr. Jones, bore testimony to the good effects which had been produced by the establishment of the institute in Whitechapel, and resolutions were carried pledging the meeting to do their best to support and extend the movement.

The Wrexham Exhibition of Art Treasures.—The committee of this exhibition, held in 1876, have issued a circular, in which they say that the exhibition, having failed to attract sufficient popular support in a year of unexampled depression in trade, ended, as is now generally known, in a deficit of 4,300*l*. Notwithstanding the exertions of those connected with its management to make it financially successful, they failed; and they now appeal to all lovers of art, as well as to those who wish to elevate and improve the taste of the people, for help in the liquidation of the amount still owing, which, after deducting the large sums promised by the Duke of Westminster (2,000*l*.), and by Mr. W. Cornwallis West (500*l*.), is in round numbers, 1,800*l*. Over 550*l*. of this has, however, been promised.

Westgate-on-Sea.—We are glad to note the inauguration of a Working Men's Club in this rising watering-place. The promoters were fortunate in obtaining the valuable assistance of Mr. Thomas Hughes and Professor Erasmus Wilson in starting the undertaking. We believe the promotion of the scheme is due to Mr. and Lady Rose Weigall, and their efforts appear to have been cordially seconded by other well-known residents and visitors. Mr. Corbett has generously given a piece of land on which to erect a building for the club. Subscriptions are promised towards the building itself, and there is every prospect of the undertaking being successfully accomplished. Mr. Hughes made a very interesting and useful address.

Leinster Lawn, Dublin.—The Dublin Corporation have passed a resolution condemning the intention of the Government to build the proposed Museum of Science and Art on Leinster Lawn, and have appointed a deputation to wait on the Chief Secretary on the subject. The resolution declared that, inasmuch as places for public recreation in Dublin are very few in number, it would be most undesirable to build on Leinster Lawn, which is not only a great ornament to the city, but a means of affording enjoyment to the people, and of cultivating the public taste. We recently published a letter protesting against the proposed spoliation of the place.

"Cleopatra's Needle."—A special meeting of the members of the Royal United Service Institution was held on the 16th inst., to hear a paper by Mr. J. Dixon, C.E., giving an account of the steps taken to remove the obelisk from Egypt to England. He referred to the history of the monument, and to its being composed of granite from a ridge some 700 miles up the Nile. He admired the ingenuity of the ancients, who could set up and pull down such immense blocks, and he had often thought that such an example of the engineering skill of the people of some 3,300 years ago should be for more reasons than one transferred to the centre of the engineering skill of the present day. He expressed his belief that the obelisk would before long reach England.

Selborne Church.—The parish church of Selborne, the little village in Hampshire made famous by the Rev. Gilbert White, the naturalist, had fallen into a state of very serious decay. It has now undergone partial restoration. It was opened last week. The north transept has been almost entirely rebuilt, the roof of the nave renewed, and the whole of the high-backed pews replaced with open benches on new floors. Some old coffin-lids and many interesting tiles have been found and placed on a raised footpace at the east end of the south aisle. The architect is Mr. William White, F.S.A., grandnephew of the famous naturalist.

The Royal Dramatic College.—At a meeting of the governors of the Royal Dramatic College, held in London, on the 12th inst., the following resolution was unanimously adopted:—

"That as it is impossible to keep up the Royal Dramatic College and provide for its inmates, through want of sufficient support, there being at this moment no funds for the current expenses except by selling out the remaining sum of 1,000*l*. in the New Three per Cents., the council do forthwith take such steps as the Charity Commissioners may advise to dispose of the property and to provide for the inmates."

Destruction of a Church by Fire.—The fine old church of Lamerton, situated about three miles from Tavistock, was on Monday evening totally destroyed by fire. It was only eighteen months ago that the edifice was restored, at a cost of about 1,100*l*., and at the same time a new organ was erected at an expense of about 200*l*. more.

Moving Buildings.—For some time past the public have complained of the inconvenience occasioned at Chepstow station by the level being considerably lower than the floor of the carriages. Last week the novel proceeding of bodily raising the structure was completed in the presence of various scientific men. The station is supposed to be about 140 tons in weight. It consists of two stone buildings on either side of the line. Each of these is 56 ft. by 18 ft. 6 in. wide, and 12 ft. 6 in. high. A number of jacks were simultaneously put in use, and the station was successfully raised the required height of 22 in. No injury whatever was done to the building. The project was first suggested by the engineer of the Great Western line, Mr. L. Owen.

The Frauds on the Midland Railway Company.—At the Manchester Assizes last week, George Mason Tickle, brick manufacturer; Edwin Westerman, superintendent of permanent-way, and Thomas Herrick, inspector of permanent-way, were indicted for conspiring together to defraud the Midland Railway Company of divers large sums of money, and large quantities of bricks and other materials. The prisoners were found guilty, Herrick being recommended to mercy. Westerman was sentenced to eleven months, Tickle to twelve, and Herrick to six months' imprisonment with hard labour.

The Dome of St. Peter's at Rome is reported to be again giving considerable anxiety for its security. It is stated that the fissures and cracks in the upper part of the dome and its supports have much increased of late. A commission from the Russian Academy of Fine Arts has recently examined the dome, and it was found that almost every part of the structure was more or less cracked or dislocated. Bands of iron have been placed round the dome in previous years and marble tablets dove-tailed into the crack, but numbers of the latter have been broken or torn by the widening of the fissures.

Sculpture for the London Guildhall.—At the meeting of the Court of Common Council on the 15th inst., the general purposes committee, reporting on a reference of the 22nd March last, on the letter of Mr. J. Bell, sculptor of the Wellington monument in the Guildhall, offering for sale to the corporation a marble relievo of "Peace and the Soldier's Return," recommended that the same be purchased at a sum of 300 guineas. The motion was agreed to, and it was referred to the City Lands Committee to select a suitable site for the work.

Destruction of an Historic Building by Fire.—On the night of the 14th inst. a fire broke out at the offices and hall of the Scottish Corporation, at the top of Crane-court, Fleet-street, which resulted in the entire destruction of the building, which was the first meeting-place of the Royal Society, for whom it was built by Sir Christopher Wren in 1710. A view of the house, together with some account of its history and associations, appeared in the *Builder* for January 8th, 1876 (vol. xxxiv., pp. 32—34).

The Widening of London Bridge.—The Corporation of London have given notice that in the next session of Parliament they intend to apply for leave to bring in a Bill to enable them to widen London Bridge and to construct the necessary works in connexion therewith, and for such purposes to borrow money on the credit of the Bridge House estates. The widening of the bridge will be to the extent of 11 ft. on each side. They will also ask to amend any Acts relating to the bridge, and for other powers.

The Slate Trade of North Wales.—The *Mining Journal* says that notwithstanding the general depression in trade at home, and the closing of the Baltic ports for the winter, the slate trade of North Wales keeps uncommonly good, and there is a movement among quarry-owners for another advance in price. The advances made during the last ten years reach a total of thirty per cent. on the current prices of 1867.

Papers for the Institution of Civil Engineers.—The Council of the Institution of Civil Engineers invite communications, of a complete and comprehensive character, on certain subjects, as well as on other analogous questions. For approved original communications, the council will be prepared to award premiums, arising out of special funds bequeathed for the purpose. A list of subjects has been published, which can be obtained at the Institution.

Gunpowder in Coalmines Superseded.—Some experiments have just been made at Wigan with the view of ascertaining if coal cannot be got without the use of gunpowder. Mr. I. Knowles, of the Pearson and Knowles Coal and Iron Company, has invented a hydraulic ram to be applied to wedges, and it was with these that the experiments were made. The first trial, on a very hard seam, where the coal had been bored, cut, and drilled as if for powder, brought down three or four tons in seventeen minutes, the second dislodged nearly eight tons in seven and a half minutes, and the third wedge which was driven into the face of the coal loosened it so as to render its being easily got by hand.

Baths and Wash-houses for Southampton.—It is proposed to establish in the poorer districts of Southampton public baths and wash-houses on somewhat the same principle as has already been adopted in the metropolis and other places, and it is believed that a great want will be supplied in this manner, as in Southampton no such establishment exists. It seems that a large and appropriate building is available in a thickly-populated district of the town, and a meeting for the purpose of discussing the matter has been held at the Deanery.

The Sea at Eastbourne.—The ratepayers of Eastbourne are agitating with a view to some prompt action being taken in the matter of the Foreshore at the east end of the town. During the hurricane on the 11th inst. a fissure was made in the embankment, and two faggot groynes were destroyed. It is feared that unless some immediate steps are taken, the wall at that part will be swept away in another gale with high tide.

Knightsbridge "Flats."—A dozen of the houses in Albert-terrace, Knightsbridge, ranging from the Co-operative Stores to the "Fox and Bull," near Albert-gate, are in course of removal, and on the site a large pile of buildings, to provide dwellings in flats for about 200 families, is to be erected. A new entrance to the park, in connexion with this alteration, is talked of.

Rental of Edinburgh.—From a statement just issued it appears that the rental of the burgh of Edinburgh has increased from 761,863*l*. 9*s*. 1*d*. in 1855-56 to 1,538,738*l*. 3*s*. 8*d*. in 1877-78. There has been an increase of 69,797*l*. 4*s*. 4*d*. during last year. The population of the burgh in 1855 was about 160,000, and in 1877 about 200,000.

Mechanics' Institute, Jarrow.—Mr. C. M. Palmer, M.P., lately laid the foundation-stone of a new wing to be added to the Mechanics' Institute at Jarrow. The plans have been prepared by the committee's architect, Mr. Edward Shewbrooks, of Newcastle, and the contract has been let to Mr. John Smith, of Jarrow.

Reading.—The Foresters of Reading have decided to erect a hall for their meetings, &c., in West-street. The frontage is to be occupied by shops on each side of the entrance to the hall. Messrs. Brown & Albury are the architects engaged. The cost will be about 4,000*l*.

TENDERS.

For the Level proposed water supply, Brighton:—

Jones & Co.	£397	10	0
Green & Son	253	10	0
Anscombe	246	0	0
Laidlaw & Son	245	15	0
Reed & Co.	235	0	0
J. & F. May	210	0	0
Saffield & Co. (accepted)	197	3	4
Chandler & Sons (too late)	189	0	0

For rebuilding No. 54, Gracechurch-street, City, for Sir William Mitchell. Mr. Legg, architect:—

Coleman	£5,399	0	0
Little	5,257	0	0
Boyce	5,220	0	0
Conder	4,963	0	0
Lathey Bros.	4,812	0	0
Shurmur (accepted)	4,383	0	0

For manufacturing premises, Chapel-street, City. Messrs. Ford & Hesketh, architects:—

Nightingale	£8,046	0	0
Scrivener & White	8,015	0	0
Newman & Mann	7,895	0	0
Browne & Robinson	7,879	0	0
Ashby Bros.	7,845	0	0
McLachlan & Sons	7,704	0	0
Kirk & Randall	7,653	0	0
Brass	7,449	0	0
Morter	7,333	0	0
Perry & Co.	7,328	0	0
Conder	7,099	0	0
Mark	7,000	0	0
Merritt & Ashby	6,987	0	0
Crabb (accepted)	6,823	0	0

For shop front and fittings to No. 2, Donegal-place, High-road, Clapton, for Messrs. A. Webb & P. Dashwood. Mr. Robert Blackmore, architect:—

Niblett (accepted)	£97	10	0

For alterations and additions to the Stafford Hotel, Westbourne-villas, Harrow-road, for Mr. F. Smith. Messrs. Bird & Walters, architects. Quantities supplied:—

Newman & Mann	£3,220 0 0
Temple & Foster	3,185 0 0
Brass	3,149 0 0
Lawrence	3,105 0 0
Williams & Sons	3,078 0 0
Mark	2,980 0 0
McLachlan & Sons	2,869 0 0
Hockly	2,830 0 0
Marr	2,816 0 0
Nightingale	2,744 0 0
Langridge & Sons	2,694 0 0
Anley (accepted)	2,670 0 0

For additional works to premises for Messrs. Jones Bros., Holloway-road:—

Anley (accepted)	£1,194 0 0

For rebuilding Nos. 15, 16, 17, Camomile-street, City, for Mr. Frederick Jones. Quantities supplied by Mr. E. W. Griffiths. Mr. Wm. C. Banks, architect:—

	Net.	Allowed for Old Materials.
Shurmur	£6,435	£225
Oliver	6,410	150
Browne & Robinson	6,302	95
Marriage	6,140	260
Sheffield & Prebble	5,944	130
Sharman	5,920	200
Downs & Co.	5,910	150
Carter	5,751	170
Hart	5,610	170
Nightingale	5,571	200
Cross	5,439	200
W. & F. Croaker	5,344	210

Accepted for new Board schools, Staithes, Yorkshire, to accommodate 333 children, master's house, outbuildings, boundary-walls, &c. Mr. Alfred J. Martin, architect:—

Gladstone (excavator, bricklayer, &c.)	£1,329 12 2
Tyerman Brothers (slater)	220 0 0
Burton Brothers (carpenter and joiner)	522 15 0
Boddy (plumber, painter, &c.)	192 13 6

For alterations and additions to Napleton House, Kempsey, Worcester, for Mr. P. S. Williams. Messrs. Yeates & Jones, architects. Quantities supplied:—

Wood & Sons	£1,435 0 0
Beard	1,400 0 0
Bourne	1,377 10 0
Dixon	1,315 0 0
Kendrick (accepted)	1,250 17 0

For alterations to Dorset-cottage, Fulham, for Mr. D. Macfarlaine. Mr. C. G. Wray, architect:—

Anley (accepted)	£530 0 0

For repairs and alterations at Hill-house, Hornsey, for Mr. J. W. Bird. Mr. J. E. Saunders, architect:—

Harper, jun.	£1,035 0 0!
Searle	835 0 0
Perkins	830 10 0
Bolding	793 0 0
Malley (accepted)	581 0 0!

For the erection of an engineer's residence, at Canning-town, for the West Ham Local Board. Mr. Lewis Angell, architect. Quantities by Messrs. R. L. Curtis & Sons:—

Maddison	£1,270 0 0
Reed	1,180 0 0
Rivett	1,150 0 0
North Bros.	985 10 0
Wood	983 0 0
Hart	960 0 0
Sheffield & Prebble	947 0 0
Judd & Hawkings	945 0 0
Boyd	888 0 0
Horlock (accepted)	875 0 0

For pair of cottages, Emmer-green, near Reading, for Mr. Winslet. Mr. John J. Smith, architect:—

Patience & White (accepted)	£270 0 0

For a pair of cottages, Rodbourne, Wilts, for Mr. Woolford. Mr. John J. Smith, architect:—

Joyce (accepted)	£293 0 0

For shop, New Swindon, for Messrs. Falconer Brothers. Mr. John J. Smith, architect:—

Wiltshire (accepted)	£251 0 0

For dwelling-house, Longcott, Berks, for Mr. William Hickman. Mr. John J. Smith, architect:—

Wiltshire (accepted)	£730 0 0

For two dwelling-houses in Brown-street, Salisbury, for Mr. William Hicks. Mr. Fred. Bath, architect. Quantities supplied:—

Adey	£1,267 0 0
Plowman	1,218 15 2
Sawkins	1,211 14 0
Harris	1,110 0 0
Cooper	1,057 0 0
Young & Sons (accepted)	1,031 10 0

For the erection of three houses at Brockley. Mr. Robert Blackmore, architect. Quantities by Messrs. Whitmore & Kennard:—

Stamp & Bowtle	£2,109 0 0
Niblett	2,080 0 0
Wood	2,043 0 0
Linfield	1,961 0 0

For roads and drainage, South Grove-road, East-street and West-street, Walthamstow. Mr. J. H. Swan, surveyor. Quantities by Mr. T. M. Deacon:—

Pound	£1,108 7 0
Pizzey	1,033 0 0
Calver	1,020 0 0
Bloomfield (accepted)	1,002 0 0
Wilson	975 0 0

For the erection of a house on Bush-hill Park Estate, Enfield, for Mr. J. S. Harris. Mr. T. Tayler Smith, architect:—

Heath	£1,670 0 0
Patman	1,628 0 0
Hampton	1,470 0 0
Fairhead	1,398 15 0
Bentley (accepted)	1,377 0 0

For the erection of a house and stables, on Bush-hill Park Estate, Enfield, for Dr. Mugliston. Mr. T. Tayler Smith, architect:—

	House.	Stables.
Patman	£1,981 0 0	£279 0 0
Heath	1,810 0 0	295 0 0
Hampton, jun.	1,693 15 0	245 0 0
Fairhead	1,613 0 0	236 0 0
Bentley (accepted)	1,589 0 0	225 0 0

For the erection of St. Mary's Church, Kippington, Sevenoaks. Mr. John M. Hooker, architect. Quantities by Mr. Thos. Ladds:—

	Oak Seats.	Deal Seats.
Shaw	£10,027 0 0	£9,334 0 0
Brass	9,537 0 0	8,853 0 0
Constable	8,916 0 0	8,476 0 0
Cowland Bros.	8,894 0 0	8,556 0 0
Adcock	8,514 10 7	7,849 10 7
Wallis & Clements	8,011 0 0	7,505 0 0
Wilson	7,661 0 0	7,308 0 0

For temporary shops, &c., in Watney-street, St. George-in-the-East, for Mr. M. Drummond. Mr. W. Bisiker, architect:—

Roberts	£650 0 0
Moyle & Son	620 0 0
Palmer *	534 0 0
Jackson & Todd (withdrawn)	499 0 0
Roper (withdrawn)	375 0 0

* Accepted subject to a slight alteration.

For the erection of a pair of semi-detached villas, at Woodford, for Mr. James Bourke. Mr. Robert Blackmore, architect. Mr. P. Dashwood, surveyor:—

Bullen *	£960 0 0

* Accepted subject to alterations.

Villa Residence at Highgate.—In list of tenders for the above, the lowest tender, 2,670*l.*, was from W. Larter & Son, not Larken & Son, as printed. The tender was accepted.

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We are compelled to decline pointing out books and giving addresses.

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WILLIAM J. VIAN, Secretary.

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Invested Assets on the 31st of December, 1876	£5,493,462
Income for the past year	486,970
Amount paid on Death to December last	11,146,830
Aggregate Reversionary Bonuses hitherto allotted	5,922,136

The expenses of management (including commission) are about 4½ per cent on the annual income.
ATTENTION is especially called to the NEW RATES of PREMIUM recently adopted by the Office.
The RATES for YOUNG LIVES will be found MATERIALLY LOWER than heretofore.
Policies effected this year (1877) will be entitled to share in the Profits at the next Division, in December, 1879.
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